

## **Appendices**

**Appendix A. Unit Conversion Chart**

**Table A1. Metric - English unit conversions.**

	<b>Imperial Units</b>	<b>Metric Units</b>	<b>To Convert</b>	<b>Example</b>
<b>Distance</b>	Miles (mi)	Kilometers (km)	1 mi = 1.61 km 1 km = 0.62 mi	3 mi = 4.83 km 3 km = 1.86 mi
<b>Length</b>	Inches (in) Feet (ft)	Centimeters (cm) Meters (m)	1 in = 2.54 cm 1 cm = 0.39 in 1 ft = 0.30 m 1 m = 3.28 ft	3 in = 7.62 cm 3 cm = 1.18 in 3 ft = 0.91 m 3 m = 9.84 ft
<b>Area</b>	Acres (ac) Square Feet ( $\text{ft}^2$ ) Square Miles ( $\text{mi}^2$ )	Hectares (ha) Square Meters ( $\text{m}^2$ ) Square Kilometers ( $\text{km}^2$ )	1 ac = 0.40 ha 1 ha = 2.47 ac $1 \text{ ft}^2 = 0.09 \text{ m}^2$ $1 \text{ m}^2 = 10.76 \text{ ft}^2$ $1 \text{ mi}^2 = 2.59 \text{ km}^2$ $1 \text{ km}^2 = 0.39 \text{ mi}^2$	3 ac = 1.20 ha 3 ha = 7.41 ac $3 \text{ ft}^2 = 0.28 \text{ m}^2$ $3 \text{ m}^2 = 32.29 \text{ ft}^2$ $3 \text{ mi}^2 = 7.77 \text{ km}^2$ $3 \text{ km}^2 = 1.16 \text{ mi}^2$
<b>Volume</b>	Gallons (g) Cubic Feet ( $\text{ft}^3$ )	Liters (L) Cubic Meters ( $\text{m}^3$ )	1 g = 3.78 l 1 l = 0.26 g $1 \text{ ft}^3 = 0.03 \text{ m}^3$ $1 \text{ m}^3 = 35.32 \text{ ft}^3$	3 g = 11.35 l 3 l = 0.79 g $3 \text{ ft}^3 = 0.09 \text{ m}^3$ $3 \text{ m}^3 = 105.94 \text{ ft}^3$
<b>Flow Rate</b>	Cubic Feet per Second ( $\text{ft}^3/\text{sec}$ ) <sup>1</sup>	Cubic Meters per Second ( $\text{m}^3/\text{sec}$ )	$1 \text{ ft}^3/\text{sec} = 0.03 \text{ m}^3/\text{sec}$ $1 \text{ m}^3/\text{sec} = \text{ft}^3/\text{sec}$	$3 \text{ ft}^3/\text{sec} = 0.09 \text{ m}^3/\text{sec}$ $3 \text{ m}^3/\text{sec} = 105.94 \text{ ft}^3/\text{sec}$
<b>Concentration</b>	Parts per Million (ppm)	Milligrams per Liter (mg/L)	$1 \text{ ppm} = 1 \text{ mg/L}^2$	$3 \text{ ppm} = 3 \text{ mg/L}$

<sup>1</sup> 1  $\text{ft}^3/\text{sec}$  = 0.65 million gallons per day; 1 million gallons per day is equal to 1.55  $\text{ft}^3/\text{sec}$ .<sup>2</sup>The ratio of 1 ppm = 1 mg/L is approximate and is only accurate for water.

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**Appendix B. State and Site-Specific Standards and Criteria**

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- The *Idaho Water Quality Standards and Wastewater Treatment Requirements* are available on the web at <http://www2.state.id.us/adm/adminrules/rules/idapa58/0102.pdf>.
- No site specific criteria were used in developing the South Fork Payette River Subbasin Assessment.
- Table B1 outlines the water quality standards used in the South Fork Payette River Subbasin Assessment

**Table B1. Idaho water quality standards uses in the South Fork Payette River Subbasin Assessment.**

Pollutant	Applicable Water Quality Standard
Sediment (58.01.02.200.08)	Sediment shall not exceed quantities specified in general surface water quality criteria (IDAPA 58.01.02.250 or 252) or, in the absence of specific sediment criteria, quantities which impair designated beneficial uses

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**Appendix C. Data Sources**

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**Table C1. Data sources for South Fork Payette River Subbasin Assessment**

<b>Location</b>	<b>Data Source<sup>1</sup></b>	<b>Types of Data</b>	<b>When Collected</b>
South Fork Payette River	USGS	Physical, Chemical	1941-2002
Wadable Streams	DEQ	Physical, Chemical, Biological	1996-2004
6 <sup>th</sup> Field HUCs throughout the basin	USDA Forest Service	Physical	NA

<sup>1</sup>DEQ = Department of Environmental Quality, USGS = United States Geological Survey, USDA = United States Department of Agriculture

**Table C2. Data tiers<sup>1</sup> for data used in the South Fork Payette River Subbasin Assessment**

<b>Location</b>	<b>Data Source</b>	<b>Data Tier</b>	<b>Outcome</b>
South Fork Payette River – at Lowman and Garden Valley	USGS	1	Sediment proposed for §303(d) de-listing
Wadable Streams throughout the basin – BURP data	DEQ	1	Several streams are being proposed for §303(d) listing based on BURP data
6 <sup>th</sup> Field HUCs throughout the basin	USDA Forest Service	1	Erosion hazards and geomorphic risk profiles developed to identify priority areas

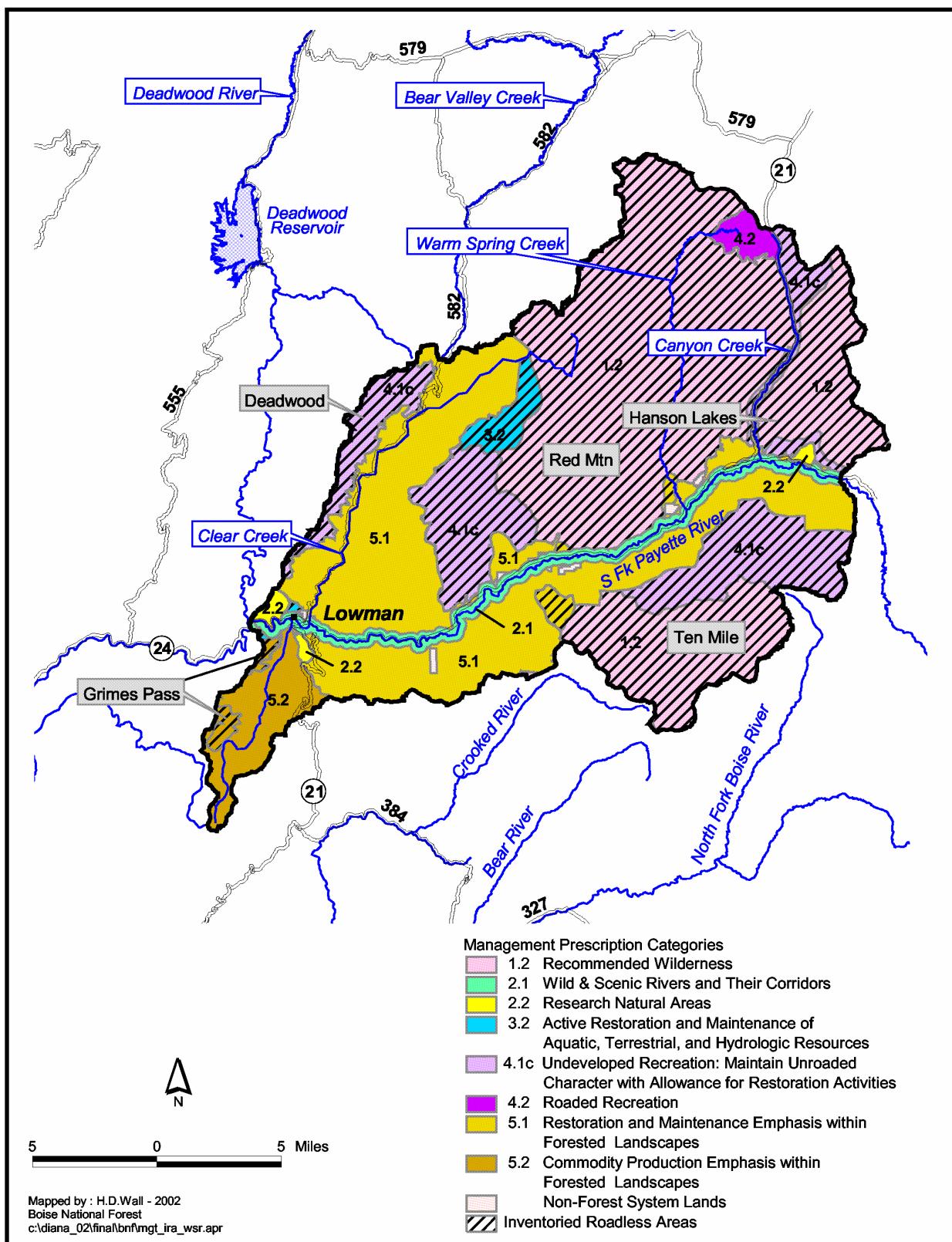
<sup>1</sup>Based on IDEQ Water Body Assessment Guidance definitions of Tier 1-Tier 3 data (Grafe et. al. 2002)

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**Appendix D. Excerpts from the Boise National Forest Plan**

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## Management Area 10 - Upper South Fork Payette River Location Map



## Management Area 10

### Upper South Fork Payette River

#### MANAGEMENT AREA DESCRIPTION

**Management Prescriptions** - Management Area 1 has the following management prescriptions (see map on preceding page for distribution of prescriptions).

Management Prescription Category (MPC)	Percent of Mgt. Area
1.2 – Recommended Wilderness	45
2.2 – Research Natural Areas	1
3.2 – Active Restoration and Maintenance of Aquatic, Terrestrial, & Hydrologic Resources	2
4.1c – Maintain Unloaded Character with Allowance for Restoration Activities	15
4.2 – Roaded Recreation Emphasis	1
5.1 – Restoration and Maintenance Emphasis within Forested Landscapes	31
5.2 – Commodity Production Emphasis within Forested Landscapes	5

**General Location and Description** - Management Area 10 is comprised of lands administered by the Boise National Forest within the South Fork Payette River drainage between Lowman and Grandjean, Idaho (see map, opposite page). The area lies in Boise County, and is part of the Lowman Ranger District. The management area is an estimated 232,200 acres, of which the Forest Service administers 99 percent, and 1 percent are privately owned. Most of the private inholdings lie along the South Fork Payette River corridor. The area is bordered by the Boise National Forest to the north, west, and south, and by the Sawtooth National Forest to the east, including the Sawtooth National Recreation Area and Sawtooth Wilderness Area. The primary uses or activities in this management area have been dispersed and developed recreation, timber management, and livestock grazing.

**Access** - The main access to the area is by paved State Highway 21 from Lowman to Banner Summit. Other access routes include Forest Road 582 up Clear Creek, Forest Road 524 to Grandjean, and Forest Road 594 up Rock Creek. These roads are gravel-surfaced and well-maintained. The density of classified roads in the management area is an estimated 1.3 miles per square mile, and much of the area is roadless. Total road density for area subwatersheds ranges between 0 and 4.1 miles per square mile. The roadless areas have several trails, but large portions are relatively inaccessible.

An estimated 7 miles of the Grandjean Road (Forest Road 524) are scheduled for improvement during the next decade. Planning for this project is still in a very early stage of development so improvement details are not yet known. This road provides access to developed recreation sites in the Grandjean area as well as a major trailhead for the Sawtooth Wilderness.

**Special Features** – A portion of one eligible Wild and Scenic River, the South Fork Payette River, lies within the management area. The South Fork Payette River has one segment in this area with a Recreational classification, and one with a Scenic classification. The Recreational segment is an estimated 27.4 miles, with a river corridor area of 8,752 acres. The Scenic segment is an estimated 6.5 miles, with a river corridor area of 2,080 acres. The South Fork is considered eligible for Wild and Scenic River status because of its outstandingly remarkable scenic, recreational, geologic, hydrologic, and cultural resource values.

The South Fork Payette River offers high-quality rafting and kayaking opportunities, bald eagle habitat, prehistoric and historic cultural resources, and hot springs. The town of Lowman and several summer home subdivisions lie along the river corridor. Highway 21 is the Ponderosa Pine State Scenic Byway, and a National Forest Scenic Byway. The Banks-to-Lowman Highway is also the Wildlife Canyon State Scenic Byway. This area lies adjacent to the Sawtooth National Recreation Area. An estimated 64 percent of the management area is inventoried as roadless, including portions of the Tenmile/Black Warrior, Red Mountain, Deadwood, Grimes Pass and Hanson Lakes Roadless Areas. The Forest has recommended the Tenmile/Black Warrior, Red Mountain, and Hanson Lakes areas for Wilderness designation.

The Monumental Creek Research Natural Area (678 acres) provides a good example of ponderosa pine/Douglas-fir habitat with bitterbrush understory. The Lowman Research Natural Area (380 acres), located one mile southwest of Lowman, preserves features of a ponderosa pine vegetative cover. The Bear Creek Research Natural Area (387 acres), located 3 miles west of Grandjean, exhibits undisturbed sagebrush-grass vegetative features. The Lowman and Bear Creek areas are also being considered as potential National Natural Landmarks.

**Air Quality** - This management area lies within Montana/Idaho Airshed ID-15 and in Boise County. Particulate matter is the primary pollutant of concern related to Forest management. There is an ambient air monitor located within the airshed in Garden Valley to obtain current background levels, trends, and seasonal patterns of particulate matter. The Sawtooth Wilderness is the closest Class I area. Visibility monitoring has been expanded for this area.

Between 1995 and 1999, emissions trends in both counties improved for PM 10, while PM 2.5 emissions remained constant. The most common source of particulate matter in the county was fugitive dust, primarily from unpaved roads. In addition to Forest management activities, crop residue and ditch burning may contribute to particulate matter emissions, although the amount of agricultural-related burning was very low within Boise County (less than 100 acres). There were no point sources within the county.

**Soil, Water, Riparian, and Aquatic Resources** - Elevations range from 3,700 feet on the South Fork Payette River to 8,876 feet at Bull Trout Point. Management Area 10 falls primarily within the South Fork Payette Canyon and Streamcut Lands Subsection. The main geomorphic landforms associated with this subsection are strongly and moderately dissected fluvial lands, canyonlands, and frost-churned slopes and canyonlands. Slope gradients average between 45 to 75 percent in the dissected fluvial lands and canyonlands, and 45 to 65 percent in the frost-churned uplands and canyonlands. The surface geology is predominantly Idaho batholith granitics. Soils generally have moderate to high surface erosion potential, and moderate

productivity. Subwatershed vulnerability ratings range from moderate to high, with the majority being high (see table below). Geomorphic Integrity ratings for the subwatersheds vary from high (functioning appropriately) to moderate (functioning at risk) to low (not functioning appropriately), with the majority being high (see table below). This area has naturally unstable slopes and localized impacts from roads, historic livestock grazing, wildfire, and recreation. Natural landslides are common, especially within burned areas. Impacts include accelerated erosion, upland compaction, and stream channel modification.

The management area is in the Lowman, Clear Creek, Warm Springs Creek, Canyon Creek, and Wapiti Watersheds (5<sup>th</sup>-order hydrologic units) of the South Fork Payette River Subbasin. The major streams in the area are the South Fork Payette River, Clear Creek, Warm Springs Creek, Rock Creek, Eightmile Creek, Canyon Creek, Tenmile Creek, and Wapiti Creek. High mountain lakes include Bull Trout Lake, Zumwaldt Lake, and Red Mountain Lakes. The Grandjean subwatershed is part of a state-regulated public water system for the Sawtooth Lodge.

Water Quality Integrity ratings for the subwatersheds vary from high (functioning appropriately) to moderate (functioning at risk) to low (not functioning appropriately), with the majority being moderate (see table below). Some areas have localized accelerated sediment from roads and recreation use. These impacts are exacerbated by relatively high rates of natural erosion in the area, including recent landslides. Sediment flushes during spring run-off and summer thunderstorms are common. Eight of the 16 subwatersheds in this area were listed in 1998 as having impaired water bodies under Section 303(d) of the Clean Water Act. These subwatersheds are Kirkham, Jackson-Fence, Blue Jay, Wolf, Bear-Camp, Grandjean, Lower Canyon Creek, and Warm Spring. The pollutant of concern for each listed subwatershed is sediment. There are currently no TMDL-assigned watersheds associated with this management area.

Subwatershed Vulnerability			Geomorphic Integrity			Water Quality Integrity			No. 303(d) Subs	No. Subs With TMDLs	No. Public Water System Subs
High	Mod.	Low	High	Mod.	Low	High	Mod.	Low			
11	5	0	10	3	3	3	12	1	8	0	1

Anadromous fish species no longer exist within area streams due to downstream dams that block their migration routes to and from the ocean. The area does, however, have important habitat for threatened bull trout. Bull trout occur throughout this area except for the Rock Creek subwatershed. Strong local populations have been noted in the Upper Clear Creek, Grandjean, Canyon, Tenmile Creek, and Upper Canyon Creek subwatersheds. Fragmented populations of redband trout are also known to occur in this area. Red Mountain Lakes are managed as a high-quality, high-elevation fishery. Aquatic habitat is near proper functioning condition, although some accelerated sediment impacts are occurring from roads, historic livestock grazing, wildfire, and recreation. The Upper Canyon Creek and Lower Canyon Creek subwatersheds have been identified as important to bull trout recovery, and as high-priority areas for restoration.

**Vegetation** - Vegetation at lower elevations is typically grasslands, shrublands, ponderosa pine, and Douglas-fir on south and west aspects, and Douglas-fir forests on north and east aspects. Mid-elevations are dominated by shrubs and forest communities of Douglas-fir and subalpine fir, with pockets of lodgepole pine and aspen. Cold forest communities of subalpine fir are found in the upper elevations, interspersed with cliffs and talus slopes.

An estimated 21 percent of the management area is comprised of rock, water, or shrubland and grassland vegetation groups, including Mountain Big Sage, Montane Shrub, Perennial Grass Slopes, and Alpine and Dry Meadows. The main forested vegetation groups in the area are Dry Ponderosa Pine/Xeric Douglas-fir (9 percent), Warm Dry Subalpine Fir (18 percent), Cool Dry Douglas-fir (11 percent), Warm Dry Douglas-fir/Moist Ponderosa Pine (18 percent), Cool Moist Douglas-fir (7 percent), High Elevation Subalpine Fir (2 percent), and Persistent Lodgepole Pine (15 percent).

The Mountain Big Sagebrush and Montane Shrub groups are functioning properly, but they are trending toward old age structure, dense canopies, and low levels of herbaceous ground cover due to fire exclusion. Alpine and Dry Meadows are also functioning properly, with minor impacts from dispersed recreation. Perennial Grass Slopes are at moderate risk due to impacts from big game grazing that have altered structure and led to an increase in annual grasses and noxious weeds.

The Cool Dry Douglas-fir, Cool Moist Douglas-fir, Dry Ponderosa Pine/Xeric Douglas-fir, Warm Dry Douglas-fir/Moist Ponderosa Pine groups are not functioning properly in some areas. Large areas recently burned in high intensity wildfires, which removed many of the large trees and converted old and mid-aged stand structure to open and young stages. Stands that recently burned experienced high mortality because decades of fire exclusion resulted in high stand densities and fuel loadings that moved these groups from non-lethal to lethal fire regimes. These high density and fuel conditions still exist in unburned stands, where fire frequency is occurring at less than historic intervals. In these areas, insect and disease infestations have increased tree mortality and the risk of uncharacteristic large wildfire. These areas also lack young structural stages and seral ponderosa pine and aspen.

The Warm Dry Subalpine Fir and Persistent Lodgepole Pine groups are functioning at risk due to fire exclusion that has resulted in old stands without much structural diversity. Late seral subalpine fir is increasing, and seral Douglas-fir, lodgepole pine, and aspen are decreasing. Snags and large woody debris are at low levels in localized areas of the Persistent Lodgepole Pine group due to fuelwood gathering. High Elevation Subalpine Fir is also functioning at risk due to fire exclusion that has allowed natural succession to reach late seral conditions in most areas. Stands are generally old and dense, with increasing subalpine fir and decreasing whitebark pine. Whitebark pine is also being lost to blister rust in many areas.

Riparian vegetation is not functioning properly in some areas due to a number of impacts. Fire exclusion in some areas has resulted in conifer trees replacing broadleaf shrubs and cottonwoods. Large wildfires in other areas have burned the tree component, removing shade, cover, and seed source. Introduced plant species and noxious weeds have increased with increasing roads and recreation use.

**Botanical Resources** – Region 4 Sensitive species known from this management area include Idaho Douglasia and giant helleborine orchid. Kellogg’s bitterroot and pale sedge, proposed Region 4 Sensitive species, occur in the area. Swamp onion and Buxbaum’s sedge, Region 4 Watch species, also occurs in this management area. No federally listed or proposed plant species are known to occur in this area, but potential habitat for Ute ladies’-tresses and slender moonwort may exist. Ute ladies’-tresses, a Threatened species, may have moderate to high potential habitat in riparian/wetland areas from 1,000 to 7,000 feet. Slender moonwort, a Candidate species, may occur in moderate to higher elevation grasslands, meadows, and small openings in spruce and lodgepole pine.

**Non-native Plants** - Dalmatian toadflax, rush skeletonweed, diffuse and spotted knapweed, Canada thistle, St. Johnswort, and tansy ragwort occur in the area, particularly along the main road corridors. An estimated 67 percent of the area is highly susceptible to invasion by noxious weeds and exotic plant species. The main weeds of concern are rush skeletonweed, Dalmatian toadflax, and spotted knapweed, which currently occur in scattered small and large populations.

Subwatersheds in the table below have an inherently high risk of weed establishment and spread from activities identified with a “yes” in the various activity columns. This risk is due to the amount of drainage area that is highly susceptible to noxious weed invasion and the relatively high level of exposure from those identified vectors or carriers of weed seed.

Subwatershed	Road-related Activities	Livestock Use	Timber Harvest	Recreation & Trail Use	ATV Off-Road Use
Kirkham Creek	Yes	No	Yes	No	No
Lower Clear Creek	Yes	No	Yes	No	No
Lick Creek	Yes	No	No	No	No
Jackson-Fence	No	No	Yes	No	No
Rock Creek	No	No	Yes	No	No

**Wildlife Resources** - Warm ponderosa and Douglas-fir forests along the South Fork Payette River provide habitat for white-headed woodpecker and flammulated owl, wintering habitat for bald eagles, and winter range for deer, elk, and mountain goat. Forests at lower and mid-elevations provide habitat for Region 4 sensitive species, goshawk and great gray owl. Nesting habitat for peregrine falcon and golden eagles occurs in isolated areas with rocky bluffs. High-elevation forests provide habitat for great gray owls, fisher, boreal owls, and many migratory landbirds, as well as summer range for mammals such as deer, elk, black bear, and mountain goat. Wolves likely occur here or will occur in the near future, as this area includes part of the Central Idaho Wolf Recovery Area. Terrestrial habitat is not functioning properly in areas that have been affected by recent large wildfires. Impacts include loss of large trees, old forest structure, hiding and thermal cover, and migration and travel corridors.

**Recreation Resources** - The Idaho State-designated Ponderosa Pine Scenic Byway lies partly within this management area. The South Fork Payette River corridor features river-oriented recreation, with rafting, kayaking, and fishing as the major uses. There are also four developed campgrounds in the corridor, one in the Clear Creek drainage, and one at Bull Trout Lake. Dispersed recreation in the rest of the management area includes hiking, hunting, camping, fishing, ATV use, snowmobiling, and horseback riding hiking. Trails in the Tenmile/Black

Warrior and Red Mountain recommended wilderness areas feature non-motorized recreation in a semi-primitive setting. Much of the use in this area comes from the Treasure Valley, although recreationists come from around the country and world to raft and kayak the South Fork Payette River. A recreation fee for parking along the South Fork Payette River is now charged river users. This area is in Idaho Fish and Game Management Units 33 and 35. Recreation special uses include several river-running outfitter and guide operations and recreation residence tracts (Long Creek, Camp Creek, Bear Creek, and Wapiti Creek) found in the South Fork Payette River corridor and along Clear Creek.

**Cultural Resources** - Cultural themes in this area include Prehistoric Archaeology, Mining, Transportation, Forest Service History, Settlement, Timber Industry, and the CCC. This area contains prehistoric sites significant to our understanding of early Indian uses in the South Fork drainage. Salmon fishing was an important seasonal use of the river by groups such as the Northern Paiute and Shoshone. Radiocarbon dates from fire hearths excavated in Deadwood Campground indicate that the area was inhabited as early as two thousand years ago. Miners periodically worked and camped at the mouth of the Deadwood River between 1863 through the 1920s. Between 1900 and 1904, Idaho City miners improved the Clear Creek Road as their favorite route to the Thunder Mountain gold camps. Early ranger and guard stations were built at Lowman (1908) and Warm Springs (1913). Forest officers supervised settlement on South Fork Payette River terraces under the 1906 Forest Homestead Act, and logging in Clear Creek and other tributaries during the 1920s and 1930s. During the 1930s, CCC crews replaced log buildings at Warm Springs Guard Station with new structures, and built campgrounds along the river, including a bathhouse at Kirkham Hot Springs.

**Timberland Resources** - Of the estimated 156,300 tentatively suited acres in this management area, 43,900 acres have been identified as being suited timberlands, or appropriate for timber production. This represents about 8 percent of the Forest's suited timberland acres. The suited timberland acres are found in MPCs 4.2, 5.1, and 5.2, as shown on the map displaying the MPCs for this management area. Lands within MPC 1.2, 2.2, 3.2, and 4.1c are identified as not suited for timber production. Timber management has been emphasized in the Clear Creek and Rock Creek drainages. No management activities are planned for the three recommended wilderness areas. Past management activities have been relatively high in the Clear Creek and Rock Creek drainages, and low or non-existent elsewhere. Forest products such as fuelwood, posts, poles and Christmas trees are collected in designated areas.

**Rangeland Resources** - This area has portions of one cattle and four sheep allotments. All five allotments are vacant. Management Area 10 provides an estimated 15,700 acres of capable rangeland. These acres represent about 4 percent of the capable rangeland on the Forest.

**Mineral Resources** - This area is open for mineral activities and exploration. The potential for locatable minerals is moderate to high, as is the potential for leasable geothermal resources. The potential for other leasable resources or common variety mineral materials is unknown.

**Fire Management** - Prescribed fire has been used to reduce activity-generated fuels and enhance big game winter range. Large wildfires that have occurred in the last 15 years include the Lowman Complex (1989), Willis Gulch (1988), and County Line (1992). Since 1989, about 20 percent of the management area has been burned by wildfire. Portions of the management area are in the Forest's wildland fire use planning area.

Lowman is a National Fire Plan community, and Clear Creek, Kirkham Creek, Jackson-Fence, Blue Jay Creek, Wolf Creek, Bear Camp, and Grandjean subwatersheds are considered wildland-urban interface areas due to private development adjacent to the Forest. These subwatersheds, along with Upper Clear Creek, are also considered to pose risks to life and property from potential post-fire floods and debris flows. Historical fire regimes for the area are estimated to be: 19 percent lethal, 48 percent mixed1 or 2, and 33 percent non-lethal. An estimated 16 percent of the area regimes have vegetation conditions that are highly departed from their historical range. Most of this change has occurred in the historically non-lethal fire regimes, resulting in conditions where wildfire would likely be much larger and more intense and severe than historically. In addition, 36 percent of the area is in moderately departed conditions. Wildfire in these areas may result in somewhat larger patch sizes of high intensity or severity, but not to the same extent as in the highly departed areas in non-lethal fire regimes.

**Lands and Special Uses** - Special-use authorizations are issued for two utility corridors to private inholdings. The Jackson Peak and Lowman, Eugene T.V. designated communications sites are located within the area.

## MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
MPC 1.2 Recommended Wilderness	General Standard	1001	Management actions, including wildland fire use and prescribed fire, must be designed and implemented in a manner that maintains wilderness values, as defined in the Wilderness Act.
	Vegetation Standard	1002	Mechanical vegetation treatments, including salvage harvest, are prohibited.
	Recreation Standard	1003	No new motorized or mechanical uses will be allowed, except where these uses must be allowed in response to reserved or outstanding rights, statute or treaty.
	Recreation Standard	1004	Existing motorized or mechanical uses are allowed only if they do not lead to long-term adverse changes in wilderness values.
	Road Standard	1005	Road construction or reconstruction may only occur where needed: a) To provide access related to reserved or outstanding rights, or b) To respond to statute or treaty.
	Fire Guideline	1006	The full range of fire suppression strategies may be used to suppress wildfires. Fire suppression tactics should minimize impacts to wilderness values.

MPC/Resource Area	Direction	Number	Management Direction Description
<b>MPC 2.1 Wild and Scenic Rivers</b>	General Standard	1007	Manage the South Fork Payette River eligible river corridor to its assigned classification standards, and preserve its ORVs and free-flowing status until the river undergoes a suitability study and the study finds it suitable for designation by Congress, or releases it from further consideration as a Wild and Scenic River.
	Vegetation Guideline	1008	In Scenic or Recreational corridors, mechanical vegetation treatments, including salvage harvest, may be used as long as Outstandingly Remarkable Values (ORVs) are maintained within the river corridor.
	Fire Guideline	1009	Prescribed fire and wildland fire use may be used as long as ORVs are maintained within the corridor
	Fire Guideline	1010	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize the impacts of suppression activities on river classifications and ORVs.
<b>MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Watershed Resources</b>	General Standard	1011	Management actions, including salvage harvest, may only degrade aquatic, terrestrial, and watershed resource conditions in the temporary (up to 3 years) or short-term (3-15 years) time periods, and must be designed to avoid degradation of existing conditions in the long-term (greater than 15 years).
	Vegetation Standard	1012	Vegetation restoration or maintenance treatments—including wildland fire use, mechanical, and prescribed fire—may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Road Standard	1013	Road construction or reconstruction may only occur where needed: a) To provide access related to reserved or outstanding rights, or b) To respond to statute or treaty, or c) To support aquatic, terrestrial, and watershed restoration activities, or d) To address immediate response situations where, if the action is not taken, unacceptable impacts to hydrologic, aquatic, riparian or terrestrial resources, or health and safety, would result.
	Fire Guideline	1014	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize suppression strategies and tactics that minimize impacts on aquatic, terrestrial, or watershed resources.
<b>MPC 4.1c Undeveloped Recreation: Maintain Unloaded Character with Allowance for Restoration Activities</b>	General Standard	1015	Management actions—including mechanical vegetation treatments, salvage harvest, wildland fire use, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the uneloaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c road standard, below.
	Road Standard	1016	Road construction or reconstruction may only occur where needed: a) To provide access related to reserved or outstanding rights, or b) To respond to statute or treaty.
	Fire Guideline	1017	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize tactics that minimize impacts of suppression activities on the uneloaded landscape in the area.

MPC/Resource Area	Direction	Number	Management Direction Description
<b>MPC 4.2 Roaded Recreation Emphasis</b>	Vegetation Guideline	1018	Vegetation management actions—including wildland fire use, prescribed fire, and mechanical treatments—may be used to maintain or restore desired vegetation and fuel conditions provided they do not prevent achievement of recreation resource objectives.
	Fire Guideline	1019	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize impacts to recreation developments and investments.
<b>MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes</b>	Road Standard	1020	<p>New roads and landings shall be located outside of RCAs in the MPC 5.1 portions of the Upper Clear Creek, Grandjean and Tenmile subwatersheds unless it can be demonstrated through the project-level NEPA analysis and related Biological Assessment that:</p> <ul style="list-style-type: none"> <li>a) For resources that are within their range of desired conditions, any new road or landing in an RCA shall not result in degradation to those resources unless outweighed by demonstrable short- or long-term benefits to those resource conditions; and</li> <li>b) For resources that are in a degraded condition, any new road or landing in an RCA shall not further degrade nor retard attainment of desired resource conditions unless outweighed by demonstrable short- or long-term benefits to those resource conditions; and</li> <li>c) Adverse effects to TEPC species or their habitats are avoided unless outweighed by demonstrable short- or long-term benefits to those TEPC species or their habitats.</li> </ul> <p>An exception to this standard is where construction of new roads in RCAs is required to respond to reserved or outstanding rights, statute or treaty, or respond to emergency situations (e.g., wildfires threatening life or property, or search and rescue operations).</p>
			<p>The full range of vegetation treatment activities may be used to restore or maintain desired vegetation and fuel conditions. The available vegetation treatment activities include wildland fire use. Salvage harvest may also occur.</p>
	Fire Guideline	1022	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize impacts to habitats, developments, and investments.
	Road Guideline	1023	<p>Road construction or reconstruction may occur where needed:</p> <ul style="list-style-type: none"> <li>a) To provide access related to reserved or outstanding rights, or</li> <li>b) To respond to statute or treaty, or</li> <li>c) To achieve restoration and maintenance objectives for vegetation, water quality, aquatic habitat, or terrestrial habitat; or</li> <li>d) To support management actions taken to reduce wildfire risks in wildland-urban interface areas; or</li> <li>e) To meet access and travel management objectives.</li> </ul>
	Fire Standard	1024	Wildland fire use is prohibited.
<b>MPC 5.2 Commodity Production Emphasis within Forested Landscapes</b>	Fire Guideline	1025	<p>Prescribed fire may be used to:</p> <ul style="list-style-type: none"> <li>a) Maintain or restore desired vegetative conditions on unsuited timberlands; or</li> <li>b) Maintain or restore desired fuel conditions for all vegetation types; or</li> <li>c) Maintain desired vegetative conditions on suited timberlands within PVGs 2 through 10.</li> </ul>

MPC/Resource Area	Direction	Number	Management Direction Description
<b>Soil, Water, Riparian, and Aquatic Resources</b>	Fire Guideline	1026	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize impacts to developments and investments.
	Objective	1027	Initiate restoration of watershed conditions and fish habitat in the Canyon Creek, Tenmile Creek, Clear Creek, Bear Creek, Grand Jean, and Rock Creek subwatersheds to help strengthen listed fish species populations.
	Objective	1028	Maintain or improve migratory bull trout habitat in Clear Creek.
	Objective	1029	Maintain and restore habitat connectivity throughout the upper South Fork Payette drainage for bull trout, redband trout, and other fish species.
	Objective	1030	Work with Idaho State Transportation Department to reduce road-related sediment in order to protect the existing strong local bull trout population in Upper Canyon Creek subwatershed.
	Objective	1031	Evaluate riparian conservation areas within the Lowman burn to determine opportunities to restore the large wood component by planting hardwoods or conifers, or other means.
<b>Vegetation</b>	Objective	1032	Survey roads and culverts to determine options to reduce sediment and restore fish passage. The highest priority survey areas are in the Clear Creek and Rock Creek drainages.
	Objective	1033	Restore and maintain species composition, structural diversity, and ecosystem processes in all vegetation groups at moderate to high hazard to uncharacteristic wildfire to make them more resilient and resistant.
	Objective	1034	Restore whitebark pine in the High Elevation Subalpine Fir vegetation group, as described in Appendix A.
	Objective	1035	Restore the seral aspen component in the forested vegetation groups, as described in Appendix A, to restore wildlife habitat and improve visual quality.
<b>Botanical Resources</b>	Objective	1036	Maintain or restore riparian vegetation within selected areas along the South Fork Payette River to improve water quality, wildlife habitat, and the recreational setting. Where vegetation is trending toward climax in riparian areas, restore early seral components to improve regeneration and diversity.
	Objective	1037	Consider establishing the Bull Trout Lake Fen as a Botanical Special Interest Area due to the presence of unique wetland habitats and plant species of concern.
	Objective	1038	Provide for and interpret sensitive wetland habitats and associated plant species of concern at the Bull Trout Lake Fen.
	Objective	1039	Maintain or restore known populations and occupied habitats of TEPCS plant species, including Idaho douglasia, Kellogg's bitterroot, and pale sedge, to contribute to the long-term viability of these species.
<b>Non-native Plants</b>	Standard	1040	Implement the Forest Service approved portions of the conservation strategy for Idaho douglasia to maintain or restore populations and habitat of this species.
	Objective	1041	Manage designated non-native, invasive weeds in an integrated approach, as specified in the Strategic and Annual Operating Plans established by the Upper Payette River Cooperative Weed Management Area Participants.

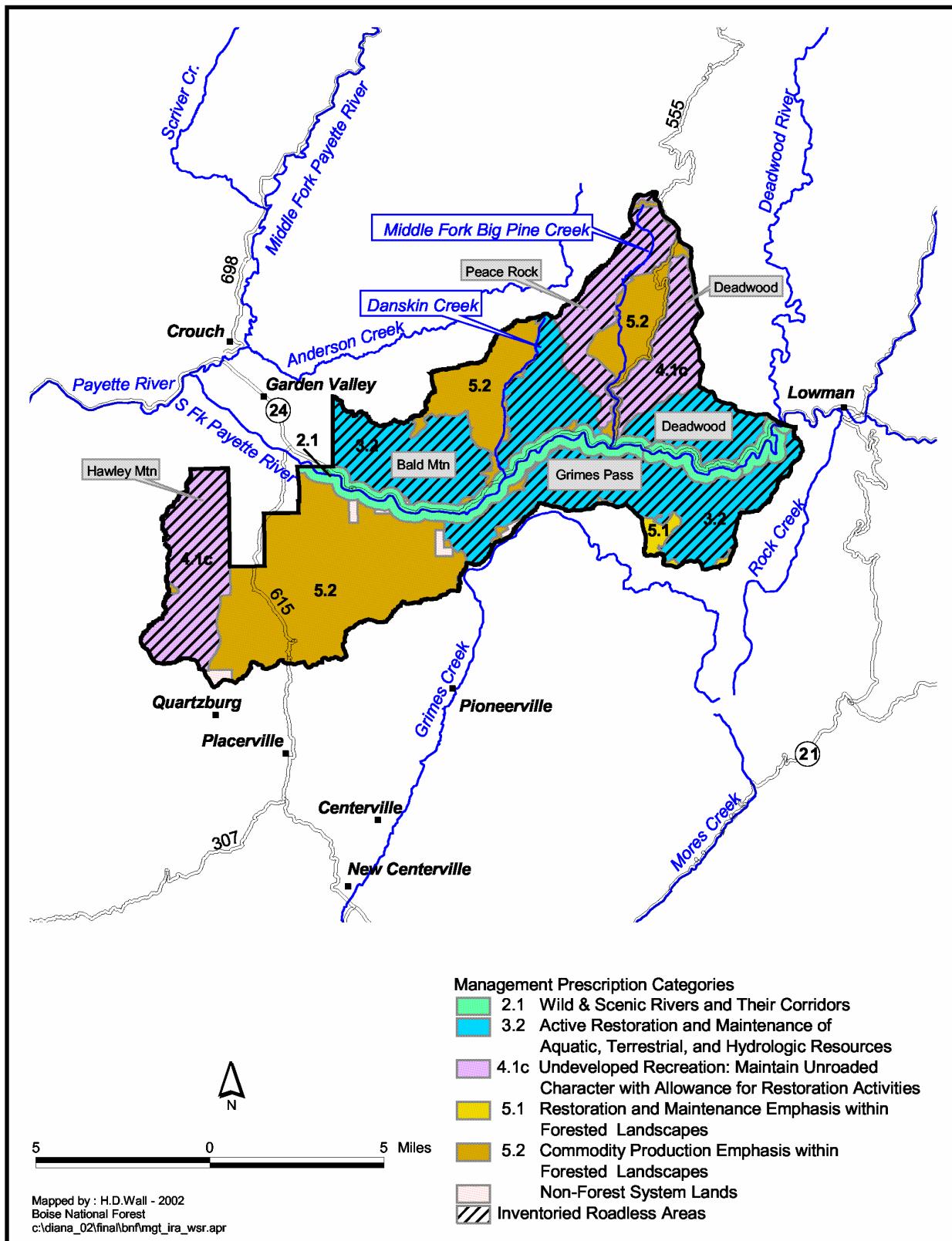
MPC/Resource Area	Direction	Number	Management Direction Description																
Wildlife Resources	Objective	1042	Maintain or restore bald eagle wintering habitat along the South Fork Payette River corridor, with emphasis on retaining or increasing large tree and snag components.																
	Objective	1043	Improve big-game winter range by restoring Mountain Big Sage and Montane Shrub vegetation groups along the South Fork Payette River corridor. Emphasize increasing native plant forage by reducing noxious weeds.																
	Objective	1044	Encourage recovery of conifer species in recently burned areas to restore wildlife habitat diversity and cover.																
Recreation Resources	Objective	1045	Increase recreation opportunities for more diverse trail experiences to meet increasing demand for these experiences.																
	Objective	1046	Provide trailhead access and information pertaining to the Sawtooth Wilderness to enhance recreation opportunities.																
	Objective	1047	Where existing recreation facilities and dispersed recreation sites are adversely affecting riparian vegetation, restore or improve vegetation through site hardening or relocation, or other means.																
	Objective	1048	Evaluate dispersed recreation uses in the Bear Creek area, and develop a management plan to reduce resource impacts and improve recreation experiences.																
	Objective	1049	Evaluate and develop plans to create “day-use” picnic sites along the Highway 21 corridor to expand recreation opportunities in this high use corridor.																
	Objective	1050	Continue the dispersed site management along the South Fork Payette River and Highway 21 corridor to maintain a range of recreation opportunities.																
	Objective	1051	Rehabilitate the vegetation around the Tenmile fish pond site to enhance recreation experiences.																
	Objective	1052	Evaluate ATV use in the Wapiti Creek area, and develop a plan to manage ATV use to reduce resource impacts.																
	Objective	1053	Maintain current motorized and mechanized travel routes within the recommended wilderness areas.																
	Objective	1054	Evaluate and develop a plan for a motorized trail extension of the Kirkham Trail that ties into the Deadwood trail system to enhance motorized recreation opportunities.																
	Objective	1055	Continue use by recreation residences within established recreation residence tracts.																
	Objective	1056	Achieve or maintain the following ROS strategy:  <table border="1"> <thead> <tr> <th rowspan="2">ROS Class</th> <th colspan="2">Percent of Mgt. Area</th> </tr> <tr> <th>Summer</th> <th>Winter</th> </tr> </thead> <tbody> <tr> <td>Semi -Primitive Non-Motorized</td> <td>41%</td> <td>1%</td> </tr> <tr> <td>Semi -Primitive Motorized</td> <td>21%</td> <td>88%</td> </tr> <tr> <td>Roaded Natural</td> <td>17%</td> <td>11%</td> </tr> <tr> <td>Roaded Modified</td> <td>21%</td> <td>0%</td> </tr> </tbody> </table> <p>The above numbers reflect current travel regulations. These numbers may change as a result of future travel regulation planning.</p>	ROS Class	Percent of Mgt. Area		Summer	Winter	Semi -Primitive Non-Motorized	41%	1%	Semi -Primitive Motorized	21%	88%	Roaded Natural	17%	11%	Roaded Modified	21%
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Roaded Natural	17%	11%																	
Roaded Modified	21%	0%																	

MPC/Resource Area	Direction	Number	Management Direction Description
Recreation Resources	Guideline	1057	Facilitate and participate in the development of a Scenic Byway Corridor Management Plan for the Ponderosa Pine Scenic Byway with local government agencies and other partners.
Cultural Resources	Objective	1058	Maintain the National Register status of eligible properties including the Warm Springs Guard Station, which is on the Forest's cabin rental program. Consider nominating Warm Springs Guard Station to the NRHP.
	Objective	1059	Conduct an inventory to identify historic properties on Canyon and Warm Springs Creeks.
	Objective	1060	Develop a maintenance plan to protect the historic character of Warm Springs Guard Station, and provide interpretation for visitors using the facility.
	Objective	1061	Evaluate and schedule timber stand improvements within the Lowman Fire areas to maintain desired vegetation structures.
Timberland Resources	Objective	1062	Emphasize restoration treatments in the Rock Creek, Clear Creek, and Upper South Fork Payette River drainages, and adjacent to urban/interface areas along Highway 21.
	Objective	1063	Continue to work with Idaho Department of Transportation to treat hazard trees along Highway 21 in the Canyon Creek area.
	Objective	1064	Reduce the opportunity for noxious weed establishment and spread by keeping suitable weed sites to a minimum during timber harvest activities in the Kirkham Creek, Jackson-Fence, Rock Creek, and Lower Clear Creek subwatersheds. Consider such methods as designated skid trails, winter skidding, minimal fire line construction, broadcast burning rather than pile burning, or keeping slash piles small to reduce heat transfer to the soil.
	Guideline	1065	Existing noxious weed infestations should be treated on landings, skid trails, and helibases in the project area before timber harvest activities begin in the Kirkham Creek, Jackson-Fence, Rock Creek, and Lower Clear Creek subwatersheds.
Rangeland Resources	Objective	1066	Initiate and complete procedures to close the existing Bull Trout Sheep and Goat Allotment due to economic considerations.
Fire Management	Objective	1067	Identify areas appropriate for Wildland Fire Use, focusing on the Red Mountain Lakes area, Tenmile Creek, Hanson addition, and upper reaches of Bear and Wapiti Creeks. Use wildland fire in these areas to restore or maintain desired vegetative conditions and to reduce fuels.
	Objective	1068	Use prescribed fire and mechanical treatments within and adjacent to wildland/urban interface areas to reduce wildfire hazards. Develop and prioritize vegetation treatment plans in coordination with local and tribal governments, agencies, and landowners.
	Objective	1069	Coordinate and emphasize fire education and prevention programs with private landowners to help reduce wildfire hazards and risks. Work with landowners to increase defensible space around structures.
	Guideline	1070	Coordinate with the Sawtooth National Forest to develop compatible wildland fire suppression and wildland fire use strategies.

MPC/Resource Area	Direction	Number	Management Direction Description
<b>Facilities and Roads</b>	Objective	1071	Evaluate and incorporate methods to help prevent weed establishment and spread from road management activities in the Kirkham Creek, Lower Clear Creek, and Wolf Creek subwatersheds. Methods to consider include: <ul style="list-style-type: none"> <li>➢ When decommissioning roads, treat weeds before roads are made impassable.</li> <li>➢ Schedule road maintenance activities when weeds are least likely to be viable or spread. Blade from least to most infested sites.</li> <li>➢ Consult or coordinate with the district noxious weed coordinator when scheduling road maintenance activities.</li> <li>➢ Periodically inspect road systems and rights of way.</li> </ul> <p>Avoid accessing water for dust abatement through weed-infested sites, or utilize mitigation to minimize weed seed transport.</p>
	Objective	1072	Improve substandard facilities at Warm Springs Guard Station to reduce health and safety concerns.
	Guideline	1073	Cooperate with Idaho Department of Transportation to keep Highway 21 open year-round north of Lowman, and to maintain Highway 21 corridor (e.g., waste sites, road maintenance, hazard tree removal, etc.). Continue to cooperate with the Transportation Department for avalanche detection and control within recommended wilderness areas.
<b>Special Features</b>	Objective	1074	Manage hot springs as recreational opportunities, while maintaining their natural integrity.
	Guideline	1075	Activities and developments adjacent to the Sawtooth National Recreation Area that would compromise its scenic and recreational values should be avoided.
<b>Scenic Environment</b>	Standard	1076	Meet the visual quality objectives as represented on the Forest VQO Map, and where indicated in the table below as viewed from the following areas/corridors:

Sensitive Travel Route Or Use Area	Sensitivity Level	Visual Quality Objective								
		Fg			Mg			Bg		
		Variety Class			Variety Class			Variety Class		
		A	B	C	A	B	C	A	B	C
Ten Mile -Black Warrior Recommended Wilderness	1	P	P	P	P	P	P	P	P	P
Red Mountain Recommended Wilderness	1	P	P	P	P	P	P	P	P	P
Highway 21	1	R	R	PR	PR	PR	PR	R	PR	M
South Fork Payette River	1	R	R	PR	R	PR	PR	R	PR	M
Forest Road 520, 025UB	1	R	R	PR	R	PR	PR	R	PR	M
Deadwood, Mountain View, Helende, Bonneville, Bull Trout Lake Campgrounds	1	R	R	PR	R	PR	PR	R	PR	M
Kirkham and Park Creek Campgrounds	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Trails 144, 145, 147, 149, 016, 018, 142, 143, 146, 148, 151, 157, 159, 160	2	PR	PR	M	PR	M	M	PR	M	MM
Camp Creek, Bear Creek, Long Creek, Wapiti, and Lowman summer homes	1	PR	PR	PR	R	PR	PR	R	PR	M
Jackson Peak Lookout	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Roads 531, 582	2	PR	PR	M	PR	M	M	PR	M	MM

## Management Area 11 - Lower South Fork Payette River Location Map



## Management Area 11

### Lower South Fork Payette River

#### MANAGEMENT AREA DESCRIPTION

**Management Prescriptions** - Management Area 11 has the following management prescriptions (see map on preceding page for distribution of prescriptions).

Management Prescription Category (MPC)	Percent of Mgt. Area
3.2 – Active Restoration and Maintenance of Aquatic, Terrestrial, & Hydrologic Resources	39
4.1c – Maintain Unloaded Character with Allowance for Restoration Activities	22
5.1 – Restoration and Maintenance Emphasis within Forested Landscapes	2
5.2 – Commodity Production Emphasis within Forested Landscapes	37

**General Location and Description** - Management Area 11 is comprised of lands administered by the Boise National Forest in the South Fork Payette River drainage between Garden Valley and Lowman, Idaho (see map, opposite page). The area lies in Boise County, and is part of the Emmett Ranger District. The management area is an estimated 65,900 acres, of which the Forest Service administers 98 percent, and 2 percent are privately owned. Most of the private inholdings lie along the South Fork Payette River corridor. The area is bordered by Boise National Forest to the north, east, and south, and by a mix of private (Garden Valley), BLM, and State lands to the west. The primary uses or activities in this area have been dispersed and developed recreation, timber management, and livestock grazing.

**Access** - The main access to the area is by paved State Highway 17 from Banks to Lowman along the South Fork Payette River. Other access routes include Forest Road 555 up Big Pine Creek and Forest Road 382 from the South Fork Payette River to Pioneerville. These are well maintained and gravel-surfaced roads. The density of classified roads for the management area is 1.5 miles per square mile, and over half the area is inventoried as roadless. Total road density for area subwatersheds ranges between 0 and 4.1 miles per square mile. There are no major trails in the area.

**Special Features** – A portion of one eligible Wild and Scenic River, the South Fork Payette River, falls within the management area. The river has one segment in the area with a Recreational classification, and one with a Scenic classification. The Recreational segment is an estimated 16.8 miles, with a river corridor area of 5,390 acres. The Scenic segment is an

estimated 3.1 miles, with a river corridor area of 988 acres. The South Fork is considered eligible for Wild and Scenic River status because of its outstandingly remarkable scenic, geologic, and cultural resource values.

The Idaho-designated Wildlife Canyon Scenic Byway lies partly within this management area. The South Fork Payette River offers high quality rafting and kayaking opportunities, winter bald eagle habitat, prehistoric and historic cultural resources, and hot springs. An estimated 59 percent of the management area is inventoried as roadless, including most of the Bald Mountain, Hawley Mountain, and Grimes Pass Roadless Areas, and small portions of the Peace Rock and Deadwood Roadless Areas.

**Air Quality** - This management area lies within Montana/Idaho Airshed ID-15 and in Boise County. Particulate matter is the primary pollutant of concern related to Forest management. There is an ambient air monitor located within the Airshed in Garden Valley to obtain current background levels, trends, and seasonal patterns of particulate matter. The Sawtooth Wilderness is the closest Class I area. Visibility monitoring has been expanded for this area.

Between 1995 and 1999, emissions trends in both counties improved for PM 10, while PM 2.5 emissions remained constant. The most common source of particulate matter in the county was fugitive dust, primarily from unpaved roads. In addition to Forest management activities, crop residue and ditch burning may contribute to particulate matter emissions, although the amount of agricultural-related burning was very low within Boise County (less than 100 acres). There were no point sources within the county.

**Soil, Water, Riparian, and Aquatic Resources** - Elevations range from 3,100 feet on the South Fork Payette River to 7,600 feet near Deadwood Lookout. Management Area 11 falls primarily within the South Fork Payette Canyon and Streamcut Lands Subsection. The main geomorphic landforms associated with this subsection are strongly and moderately dissected fluvial lands, canyon lands, and frost-churned slopes and canyonlands. Slope gradients average between 45 to 75 percent in the dissected fluvial lands and canyon lands, and 45 to 65 percent in the frost-churned uplands and canyon lands. The surface geology is predominantly Idaho Batholith granites. Soils generally have moderate to high surface erosion potential, and moderate productivity. Subwatershed vulnerability ratings range from moderate to high (see table below). Geomorphic Integrity ratings for the subwatersheds vary from moderate (functioning at risk) to low (not functioning appropriately), with the majority being low (see table below). Localized areas have impacts due to roads, timber harvest, livestock grazing, and recreation uses that have generated accelerated erosion, stream channel modification, and streambank degradation.

The management area is in the Garden Valley and Big Pine Creek Watersheds in the lower portion of the South Fork Payette River Subbasin. The major streams in the area are the South Fork Payette River, Big Pine Creek, Alder Creek, and Horn Creek. There are no lakes or reservoirs in this management area. The Lower South Fork Payette River subwatershed is part of

a state-regulated public water system for the community of Horseshoe Bend. Water Quality Integrity ratings for the subwatersheds vary from high (functioning appropriately) to moderate (functioning at risk) to low (not functioning appropriately) (see table below). Localized areas have impacts from roads, timber harvest, livestock grazing, and recreation that have increased sedimentation and nutrient levels. Two of the five subwatersheds in this area were listed in 1998 as having impaired water bodies under Section 303(d) of the Clean Water Act. These subwatersheds are Danskin-Poorman and Hole-In-The-Wall. Sediment was the pollutant of concern for both subwatersheds. There are currently no TMDL-assigned watersheds associated with this area.

Subwatershed Vulnerability			Geomorphic Integrity			Water Quality Integrity			No. 303(d) Subs	No. Subs With TMDLs	No. Public Water System Subs
High	Mod.	Low	High	Mod.	Low	High	Mod.	Low			
2	3	0	0	4	1	1	3	1	2	0	1

Anadromous fish species no longer exist within area streams due to downstream dams that block their migration routes to and from the ocean. The South Fork Payette River serves as an important over-wintering and migratory corridor for the threatened bull trout. Bull trout have been found in the Hole in the Wall subwatershed, redband trout in the Big Pine subwatershed, and both species in the Danskin-Poorman subwatershed. Aquatic habitat is functioning at risk in localized areas due to water quality impacts described above. Native fish populations are at risk due to the presence of non-native species.

**Vegetation** - Vegetation at lower elevations is typically grasslands, shrublands, ponderosa pine, and Douglas-fir on south and west aspects, and Douglas-fir forests on north and east aspects. Mid and upper elevations are dominated by shrubs and forest communities of Douglas-fir and subalpine fir, with pockets of lodgepole pine and aspen.

An estimated 22 percent of the management area is comprised of rock, water, or shrubland and grassland vegetation groups, including Mountain Big Sage, Montane Shrub, and Perennial Grass Slopes. The main forested vegetation groups in the area are Dry Ponderosa Pine/Xeric Douglas-fir (4 percent), Warm Dry Douglas-fir/Moist Ponderosa Pine (45 percent), Cool Moist Douglas-fir (11 percent), and Cool Dry Douglas-fir (11 percent).

The Mountain Big Sage and Montane Shrub groups are functioning properly, with only minor impacts from past livestock grazing. The Perennial Grass Slopes and Perennial Grass Montane groups are at or near properly functioning condition; however, past grazing impacts and introduced species have altered composition and structure in localized areas. Rush skeletonweed and other noxious weeds are increasing.

The Dry Ponderosa Pine/Xeric Douglas-fir, Cool Moist Douglas-fir, and the Cool Dry Douglas-fir groups are functioning at risk, and the Warm Dry Douglas-fir/Moist Ponderosa Pine group is not functioning properly due primarily to timber harvest and fire exclusion that have altered stand composition and structure. In managed areas, stands are dominantly young and mid-aged, with limited large trees, snags, and large woody debris. In unmanaged and unburned areas, stands have more Douglas-fir and less seral ponderosa pine and aspen than desirable, and moderate to high levels of insect and disease infestations. Large-tree, single-storied stand structure is lacking. Noxious weeds and introduced species are increasing in the understory.

Riparian vegetation is generally functioning properly, but localized impacts have occurred from timber harvest, roads, recreation, and livestock grazing. Noxious weeds and introduced plant species are increasing.

**Botanical Resources** – Giant helleborine orchid and Idaho douglasia, Region 4 Sensitive species, are known from this management area. Swamp onion, a Region 4 Watch species, also occurs in this management area. No federally listed or proposed plant species are known to occur in this area, but potential habitat for Ute ladies'-tresses and slender moonwort may exist. Ute ladies'-tresses, a Threatened species, may have moderate to high potential habitat in riparian/wetland areas from 1,000 to 7,000 feet. Slender moonwort, a Candidate species, may occur in moderate to higher elevation grasslands, meadows, and small openings in spruce and lodgepole pine.

**Non-native Plants** - Dalmatian toadflax, spotted knapweed, Canada thistle, rush skeletonweed, and purple loosestrife occur in the area, particularly along the main road corridors. An estimated 67 percent of the management area is highly susceptible to invasion by noxious weeds and exotic plant species. The main weeds of concern are rush skeletonweed and Dalmatian toadflax, which currently occur in scattered populations.

Subwatersheds in the table below have an inherently high risk of weed establishment and spread from activities identified with a “yes” in the various activity columns. This risk is due to the amount of drainage area that is highly susceptible to noxious weed invasion and the relatively high level of exposure from those identified vectors or carriers of weed seed.

Subwatershed	Road-related Activities	Livestock Use	Timber Harvest	Recreation & Trail Use	ATV Off-Road Use
Big Pine Creek	No	No	Yes	No	No
Lower South Fork Payette	Yes	Yes	Yes	No	No
Danskin-Poorman	Yes	Yes	Yes	No	No
Alder Creek	Yes	Yes	No	No	No

**Wildlife Resources** - The riparian corridor along the South Fork Payette River provides wintering habitat for bald eagles. Warm ponderosa and Douglas-fir forests along the South Fork Payette River provide habitat for white-headed woodpecker and flammulated owl, and extensive winter range for deer and elk. Low- to mid-elevation forests provide habitat for Region 4 sensitive species, goshawk and great gray owl. Nesting habitat for peregrine falcon and golden eagles occurs in isolated areas with rocky bluffs. High-elevation forests provide habitat for fisher and boreal owls, as well as summer range for mammals such as deer, elk, black bear, and mountain lion. Wolves likely occur here or will occur in the near future, as part of this area is in the Central Idaho Wolf Recovery Area. All habitats provide nesting and forage for migratory landbirds. Terrestrial wildlife habitat is functioning at risk due to habitat changes from timber harvest and fire suppression, fragmentation from roads and harvest, and disturbance from recreation uses. Winter range along the south slopes of the South Fork Payette River is in poor condition due to past livestock use and noxious weed infestations.

**Recreation Resources** - Recreation in this management area is largely river-oriented, with rafting, kayaking, recreation dredge mining, and fishing as the major uses. A recreation fee for parking along the South Fork Payette River is now charged at designated sites. Big-game hunting is popular in the fall. Developed sites include Hot Springs and Pine Flats Campgrounds, and the Danskin River Access area. Dispersed recreation includes river-running, hunting, fishing, ATV use, and snowmobiling. Much of the use in this area comes from the Treasure Valley, although recreationists come from around the world for the rafting and kayaking experience. The area is in Idaho Fish and Game Management Unit 33. Recreation special uses include several river-running outfitter and guide operations, and trail-ride outfitter and guides.

**Cultural Resources** - Cultural themes in the area include Prehistoric Archaeology, Mining, Agriculture, Ranching, Timber, Forest Service History, and the CCC. This area contains prehistoric sites significant to our understanding of Indian uses of the Payette River system. In 1993 archaeologists excavated a fishing site at Big Falls Portage. Blood residue analysis from one of the stone points tested positive for trout antiserum that cross reacts with steelhead trout and chinook salmon. Historically, the lower South Fork area was an agricultural and livestock supply center for mining camps in Boise Basin. Commercial export loggers entered the drainage in the early 1900s. They transported timber from the area by driving the logs downstream. Between 1906 and 1943, the Grimes Pass Dam generated power for dredges in Boise Basin. Forest rangers established the Garden Valley Ranger Station in 1908, the Gallagher Flat Ranger Station in 1911, and extended the South Fork Payette River Road from Grimes Pass to Lowman in 1916. The CCC operated a large, year-round camp on Gallagher Flat from 1933 to 1939. They replaced the older structures at the ranger stations, and built a new ranger station where the Garden Valley Work Center is today. They improved the Banks-Lowman Road, and developed the Hot Springs and Pine Flat Campgrounds.

**Timberland Resources** - Of the estimated 47,100 tentatively suited acres in this management area, 15,800 acres have been identified as being suited timberlands, or appropriate for timber production. This represents about 3 percent of the Forest's suited timberland acres. The suited timberland acres are found in MPCs 5.1 and 6.1, as shown on the map displaying the MPCs for this management area. Lands within MPC 3.2 and 4.1c are identified as not suited for timber production. Timber management has occurred outside of the South Fork Payette River corridor. About half of these acres have received a fairly high level of timber management in the past. Fuelwood, posts, poles, and Christmas trees are collected in designated areas.

**Rangeland Resources** - This area has portions of two cattle and two sheep allotments. Management Area 11 provides an estimated 6,800 acres of capable rangeland. These acres represent about 2 percent of the capable rangeland on the Forest.

**Mineral Resources** - This area is open for mineral activities and exploration. The potential for locatable minerals is moderate to high, as is the potential for leasable geothermal resources. The potential for other leasable resources or common variety mineral materials is unknown.

**Fire Management** - Prescribed fire has been used to reduce activity-generated fuels and enhance big game winter range. This management area is not in the Forest's wildland fire use planning area, so no wildland fire use is anticipated. Large wildfires affecting the area include Charter Mountain (1966), Anderson Creek Complex (1986), and Horn Creek (2000). Garden Valley is a National Fire Plan community, and Danskin-Poorman and Lower South Fork Payette subwatersheds are considered wildland-urban interface areas due to private development adjacent to the Forest. These subwatersheds are also considered to pose risks to life and property from potential post-fire floods and debris flows. Historical fire regimes for the area are estimated to be: 3 percent lethal, 34 percent mixed1 or 2, and 63 percent non-lethal. An estimated 41 percent of the area regimes have vegetation conditions that are highly departed from their historical range. Most of this change has occurred in the historically non-lethal fire regimes, resulting in conditions where wildfire would likely be much larger and more intense and severe than historically. In addition, 29 percent of the area is in moderately departed conditions. Wildfire in these areas may result in somewhat larger patch sizes of high intensity or severity, but not to the same extent as in the highly departed areas in non-lethal fire regimes.

**Lands and Special Uses** - Special use authorizations include two utility corridors and numerous private water transmission lines.

## MANAGEMENT DIRECTION

In addition to Forest-wide Goals, Objectives, Standards, and Guidelines that provide direction for all management areas, the following direction has been developed specifically for this area.

MPC/Resource Area	Direction	Number	Management Direction Description
<b>MPC 2.1 Wild and Scenic Rivers</b>	General Standard	1101	Manage the South Fork Payette River eligible river corridor to its assigned classification standards, and preserve its ORVs and free-flowing status until the river undergoes a suitability study and the study finds it suitable for designation by Congress, or releases it from further consideration as a Wild and Scenic River.
	Vegetation Guideline	1102	In Scenic or Recreational corridors, mechanical vegetation treatments, including salvage harvest, may be used as long as Outstandingly Remarkable Values (ORVs) are maintained within the river corridor.
	Fire Guideline	1103	Prescribed fire may be used in any river corridor as long as ORVs are maintained within the corridor.
	Fire Guideline	1104	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize the impacts of suppression activities on river classifications and ORVs.
<b>MPC 3.2 Active Restoration and Maintenance of Aquatic, Terrestrial, and Watershed Resources</b>	General Standard	1105	Management actions, including salvage harvest, may only degrade aquatic, terrestrial, and watershed resource conditions in the temporary (up to 3 years) or short-term (3-15 years) time periods, and must be designed to avoid degradation of existing conditions in the long-term (greater than 15 years).
	Vegetation Standard	1106	Vegetation restoration or maintenance treatments—including mechanical and prescribed fire—may only occur where they: a) Maintain or restore water quality needed to fully support beneficial uses and habitat for native and desired non-native fish species; or b) Maintain or restore habitat for native and desired non-native wildlife and plant species; or c) Reduce risk of impacts from wildland fire to human life, structures, and investments.
	Road Standard	1107	Road construction or reconstruction may only occur where needed: a) To provide access related to reserved or outstanding rights, or b) To respond to statute or treaty, or c) To support aquatic, terrestrial, and watershed restoration activities, or d) To address immediate response situations where, if the action is not taken, unacceptable impacts to hydrologic, aquatic, riparian or terrestrial resources, or health and safety, would result.
	Fire Guideline	1108	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize suppression strategies and tactics that minimize impacts on aquatic, terrestrial, or watershed resources.

MPC/Resource Area	Direction	Number	Management Direction Description
<b>MPC 4.1c Undeveloped Recreation: Maintain Unroaded Character with Allowance for Restoration Activities</b>	General Standard	1109	Management actions—including mechanical vegetation treatments, salvage harvest, prescribed fire, special use authorizations, and road maintenance—must be designed and implemented in a manner that would be consistent with the unroaded landscape in the temporary, short term, and long term. Exceptions to this standard are actions in the 4.1c road standard, below.
	Road Standard	1110	Road construction or reconstruction may only occur where needed: <ol style="list-style-type: none"> <li>To provide access related to reserved or outstanding rights, or</li> <li>To respond to statute or treaty.</li> </ol>
	Fire Guideline	1111	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize tactics that minimize impacts of suppression activities on the unroaded landscape in the area.
<b>MPC 5.1 Restoration and Maintenance Emphasis within Forested Landscapes</b>	Vegetation Guideline	1112	The full range of treatment activities, except wildland fire use, may be used to restore or maintain desired vegetation and fuel conditions. Salvage harvest may also occur.
	Fire Guideline	1113	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize impacts to habitats, developments, and investments.
	Road Guideline	1114	Road construction or reconstruction may occur where needed: <ol style="list-style-type: none"> <li>To provide access related to reserved or outstanding rights, or</li> <li>To respond to statute or treaty, or</li> <li>To achieve restoration and maintenance objectives for vegetation, water quality, aquatic habitat, or terrestrial habitat; or</li> <li>To support management actions taken to reduce wildfire risks in wildland-urban interface areas; or</li> <li>To meet access and travel management objectives.</li> </ol>
<b>MPC 5.2 Commodity Production Emphasis within Forested Landscapes</b>	Fire Guideline	1115	Prescribed fire may be used to: <ol style="list-style-type: none"> <li>Maintain or restore desired vegetative conditions on unsuited timberlands; or</li> <li>Maintain or restore desired fuel conditions for all vegetation types; or</li> <li>Maintain desired vegetative conditions on suited timberlands within PVGs 2 through 10.</li> </ol>
	Fire Guideline	1116	The full range of fire suppression strategies may be used to suppress wildfires. Emphasize strategies and tactics that minimize impacts to developments and investments.
<b>Soil, Water, Riparian, and Aquatic Resources</b>	Objective	1117	Improve water quality by reducing accelerated sediment from existing roads in the Big Pine Creek (Scott Mountain Road), Danskin Creek, and Alder Creek drainages.
	Objective	1118	Evaluate opportunities to reduce accelerated erosion from natural and human-caused disturbance, initial focus should be in the Danskin area.
	Objective	1119	Work with Boise County to evaluate culvert on Forest Highway 17 at Danskin Creek to determine if there is a fish passage barrier and, if so, identify options for improvement.
	Objective	1120	Restore fish passage from the South Fork Payette River to Danskin Creek to restore connectivity of native fish populations.
	Objective	1121	Maintain the South Fork Payette River as a migratory corridor for bull trout.

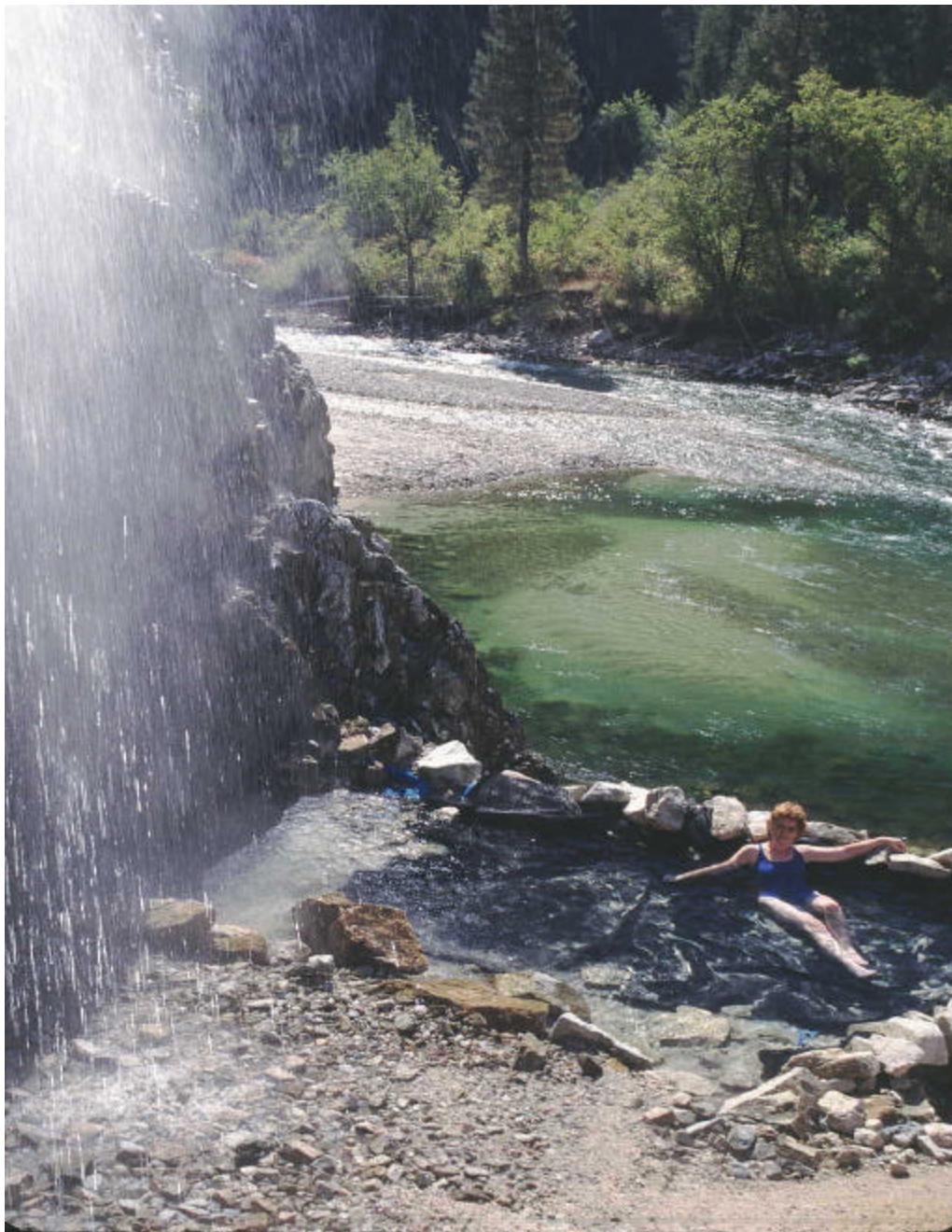
MPC/Resource Area	Direction	Number	Management Direction Description
<b>Vegetation</b>	Objective	1122	Restore and maintain species composition, structural diversity and ecosystem processes in all vegetation groups at moderate to high hazard to uncharacteristic wildfire, and/or at high hazard from insect outbreak, to make them more resilient and resistant.
	Objective	1123	Manage vegetation in riparian areas reduce the threat of uncharacteristic wildfire.
<b>Botanical Resources</b>	Objective	1124	Maintain or restore known populations and occupied habitats of TEPCS plant species, including giant helleborine orchid and Idaho douglasia, to contribute to the long-term viability of these species.
<b>Non-native Plants</b>	Objective	1125	Manage designated non-native, invasive weeds in an integrated approach, as specified in the Strategic and Annual Operating Plans established by the Upper Payette River Cooperative Weed Management Area Participants.
<b>Wildlife Resources</b>	Objective	1126	Improve big-game winter range by restoring Mountain Big Sage and Montane Shrub vegetation groups along the South Fork Payette River corridor. Emphasize increasing native plant forage by reducing noxious weeds.
	Objective	1127	Improve wildlife habitat by increasing the aspen component.
	Objective	1128	Maintain or restore bald eagle wintering habitat along the South Fork Payette River corridor, with emphasis on retaining or increasing large tree and snag components.
<b>Recreation Resources</b>	Objective	1129	Manage the South Fork Payette River corridor to provide access for river users.
	Objective	1130	Develop a river corridor management plan that would address issues such as river access, sanitation facilities, effects on adjacent privately owned lands, dispersed recreation use impacts to other resources, and interpretive and educational signing.
	Objective	1131	Facilitate and participate in the development of a Scenic Byway Corridor Management Plan for the Wildlife Canyon Scenic Byway with local government agencies and other partners.
	Objective	1132	Work with outfitters and guides to improve river use ethics.
	Objective	1133	Complete vegetation management plans for developed sites and heavily used dispersed sites.
	Objective	1134	Continue to coordinate with groups, such as the Wildlife Corridor Group and Idaho Fish and Game, to enhance wildlife viewing opportunities and habitat.
	Objective	1135	Assess the Scott Mountain Road for needed improvement to enhance recreational travel.
	Objective	1136	Work with local landowners and groups to resolve conflicts with dispersed camping on the south side of the Payette River.
	Objective	1137	Improve the portage trail around Big Falls to enhance recreation experiences enhance user safety.
	Objective	1138	Develop management plans for the hot springs near Hot Springs Campground and Pine Flat Hot Springs to enhance recreation experiences at these popular sites.
	Objective	1139	Develop trail management plans to guide trail maintenance activities.

MPC/Resource Area	Direction	Number	Management Direction Description																	
Recreation Resources	Objective	1140	<p>Achieve or maintain the following ROS strategy:</p> <table border="1"> <thead> <tr> <th rowspan="2">ROS Class</th> <th colspan="2">Percent of Mgt. Area</th> </tr> <tr> <th>Summer</th> <th>Winter</th> </tr> </thead> <tbody> <tr> <td>Semi -Primitive Non-Motorized</td><td>13%</td><td>24%</td> </tr> <tr> <td>Semi -Primitive Motorized</td><td>9%</td><td>56%</td> </tr> <tr> <td>Roaded Natural</td><td>27%</td><td>20%</td> </tr> <tr> <td>Roaded Modified</td><td>51%</td><td>0%</td> </tr> </tbody> </table> <p>The above numbers reflect current travel regulations. These numbers may change as a result of future travel regulation planning.</p>	ROS Class	Percent of Mgt. Area		Summer	Winter	Semi -Primitive Non-Motorized	13%	24%	Semi -Primitive Motorized	9%	56%	Roaded Natural	27%	20%	Roaded Modified	51%	0%
ROS Class	Percent of Mgt. Area																			
	Summer	Winter																		
Semi -Primitive Non-Motorized	13%	24%																		
Semi -Primitive Motorized	9%	56%																		
Roaded Natural	27%	20%																		
Roaded Modified	51%	0%																		
Cultural Resources	Objective	1141	Maintain the National Register status of eligible properties. Monitor the conditions of Big Falls Portage and other National Register eligible properties in the management area.																	
	Objective	1142	Work with outfitters and guides on the river to increase the public's awareness of and appreciation for cultural resources protection. Provide outfitters and guides with interpretive information about the people and events that shaped the area's history.																	
	Objective	1143	Conduct a sample inventory to identify historic properties in tributary drainages feeding the South Fork Payette River.																	
	Objective	1144	Develop a management plan and interpretation for Big Falls Portage to resolve adverse effects to the prehistoric site from erosion, unauthorized artifact collection, and the lack of sanitation facilities.																	
Timberland Resources	Objective	1145	Manage unsuited timberlands to restore and maintain big-game winter range conditions.																	
	Objective	1146	Manage suited timberlands to provide tree densities that provide protection from uncharacteristic wildfire and insect epidemics, while contributing wood products and improving growth and vigor.																	
	Objective	1147	Manage suited timberlands to emphasize stocking control and fuels reduction in older plantations.																	
	Objective	1148	Reduce the opportunity for noxious weed establishment and spread by keeping suitable weed sites to a minimum during timber harvest activities in the Lower South Fork Payette River, Danskin-Poorman, and Pig Pine Creek subwatersheds. Consider such methods as designated skid trails, winter skidding, minimal fire line construction, broadcast burning rather than pile burning, or keeping slash piles small to reduce heat transfer to the soil.																	
	Guideline	1149	Existing noxious weed infestations should be treated on landings, skid trails, and helibases in the project area before timber harvest activities begin in the Lower South Fork Payette River, Danskin-Poorman, and Pig Pine Creek subwatersheds.																	
Rangeland Resources	Objective	1150	Evaluate and incorporate methods to help prevent weed establishment and spread from livestock grazing activities in the Lower South Fork Payette, Danskin-Poorman, and Alder Creek subwatersheds. Consider changes in the timing, intensity, duration, or frequency of livestock use; the location of salting; and restoration of watering sites.																	
Mineral Resources	Objective	1151	Evaluate the mill site in Big Pine Creek for restoration opportunities.																	
	Objective	1152	Survey, locate, and evaluate old mining sites for restoration and reclamation opportunities.																	

MPC/Resource Area	Direction	Number	Management Direction Description
<b>Fire Management</b>	Objective	1153	Use prescribed fire and mechanical treatments within and adjacent to wildland/urban interface areas to manage fuel loadings and to reduce wildfire hazards. Develop and prioritize vegetation treatment plans for wildland-urban interface in coordination with local and tribal governments, agencies, and landowners.
	Objective	1154	Coordinate and emphasize fire education and prevention programs with private landowners to help reduce wildfire hazards and risks. Work with landowners to increase defensible space around structures.
<b>Lands and Special Uses</b>	Objective	1155	Develop a plan to reduce the backlog of known trespass cases throughout the management area.
	Objective	1156	Dispose of the dwelling and outbuildings on the former Ford property and rehabilitate the site to reduce public safety hazards.
	Objective	1157	Maintain Bureau of Reclamation electronic sites to monitor Deadwood Dam.
<b>Facilities and Roads</b>	Objective	1158	Bring Garden Valley work center up to standards for public safety. Provide for fire organizational needs during improvement.
	Objective	1159	Evaluate the transportation systems in Danskin and Wash Creek drainages to determine management of ATV use and identify ATV opportunities.
	Objective	1160	Evaluate and incorporate methods to help prevent weed establishment and spread from road management activities in the Lower South Fork Payette, Danskin-Poorman, and Alder Creek subwatersheds. Methods to be considered include: <ul style="list-style-type: none"> <li>➢ When decommissioning roads, treat weeds before roads are made impassable.</li> <li>➢ Schedule road maintenance activities when weeds are least likely to be viable or spread. Blade from least to most infested sites.</li> <li>➢ Consult or coordinate with the district noxious weed coordinator when scheduling road maintenance activities.</li> <li>➢ Periodically inspect road systems and rights of way.</li> <li>➢ Avoid accessing water for dust abatement through weed-infested sites, or utilize mitigation to minimize weed seed transport.</li> </ul>
<b>Special Features</b>	Objective	1161	Maintain public access to the firefighters memorial up Danskin Creek.
	Objective	1162	Improve access to hot springs of high interest.
<b>Scenic Environment</b>	Objective	1163	Manage for visual values immediately adjacent to State Highway 17 by increasing the seral tree (ponderosa pine and aspen) component, developing more open stand structure, and increasing the amount of large-trees in the Warm Dry Douglas-fir/Moist Ponderosa Pine potential vegetation group.
	Standard	1164	Meet the visual quality objectives as represented on the Forest VQO Map, and where indicated in the table below as viewed from the following areas/corridors:

Sensitive Travel Route Or Use Area	Sensitivity Level	Visual Quality Objective								
		Fg			Mg			Bg		
		Variety Class			Variety Class			Variety Class		
		A	B	C	A	B	C	A	B	C
Banks to Lowman Highway	1	R	R	PR	R	PR	PR	R	PR	M
South Fork Payette River	1	R	R	PR	R	PR	PR	R	PR	M
Forest Road 382	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Road 555	1	PR	PR	PR	PR	PR	PR	PR	PR	M
Hot Springs, Pine Flats Campgrounds	1	R	R	PR	R	PR	PR	R	PR	M
Deadwood Lookout	1	R	R	PR	R	PR	PR	R	PR	M
Forest Road 615	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Trails 029, 152	2	PR	PR	M	PR	M	M	PR	M	MM
Forest Road 555EC	2	PR	PR	M	PR	M	M	PR	M	MM

**Pine Flats Hot Springs – South Fork Payette River**



**Appendix E. Statistical Analysis for Normalized Flow Calculations**

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# Sites in this file include:  
# USGS 13235000 SF PAYETTE RIVER AT LOWMAN ID  
# Data heading explanations.  
# begin\_yr\_dt ... First complete year of data of daily mean values for this day.  
# end\_yr\_dt ... Last complete year of data of daily mean values for this day.  
# max\_mean\_va ... Maximum daily mean value for this day of daily mean values for this day.  
# min\_mean\_va ... Minimum daily mean value for this day of daily mean values for this day.  
# count\_nu ... Number of daily mean values for this day of daily mean values for this day.  
# mean\_va ... Mean of daily mean values for this day of daily mean values for this day.  
# p05\_va ... 05 percentile of daily mean values for this day.  
# p10\_va ... 10 percentile of daily mean values for this day.  
# p15\_va ... 15 percentile of daily mean values for this day.  
# p20\_va ... 20 percentile of daily mean values for this day.  
# p25\_va ... 25 percentile of daily mean values for this day.  
# p30\_va ... 30 percentile of daily mean values for this day.  
# p35\_va ... 35 percentile of daily mean values for this day.  
# p40\_va ... 40 percentile of daily mean values for this day.  
# p45\_va ... 45 percentile of daily mean values for this day.  
# p50\_va ... 50 percentile (median) of daily mean values for this day.  
# p55\_va ... 55 percentile of daily mean values for this day.  
# p60\_va ... 60 percentile of daily mean values for this day.  
# p65\_va ... 65 percentile of daily mean values for this day.  
# p70\_va ... 70 percentile of daily mean values for this day.  
# p75\_va ... 75 percentile of daily mean values for this day.  
# p80\_va ... 80 percentile of daily mean values for this day.  
# p85\_va ... 85 percentile of daily mean values for this day.  
# p90\_va ... 90 percentile of daily mean values for this day.  
# p95\_va ... 95 percentile of daily mean values for this day.  
#  
#

agency_cd	site_no	month_nu	day_nu	begin_yr	end_yr	count_nu	count_zero	count_miss	max_va_yr	max_va	min_va_yr	min_va	mean_va	p05_va	p10_va	p15_va	p20_va	p25_va	p30_va	p35_va	p40_va	p45_va	p50_va	p55_va	p60_va	p65_va	p70_va	p75_va	p80_va	p85_va	p90_va	p95_va
5s	15s	3n	3n	6n	6n	8n	8n	8n	5n	12s	5n	12s	Discharge	12s																		
USGS	13235000	1	1	1941	2004	63	0	0	1997	3240	1995	140	367	195	233	240	250	250	268	273	287	292	306	310	319	330	339	358	372	389	507	614
USGS	13235000	1	2	1941	2004	63	0	0	1997	2470	1995	140	352	179	230	250	254	260	262	268	276	288	300	315	321	333	343	355	369	384	492	585
USGS	13235000	1	3	1941	2004	63	0	0	1997	1610	1995	150	334	186	225	238	249	255	261	270	280	280	287	298	309	323	336	350	374	404	480	560
USGS	13235000	1	4	1941	2004	63	0	0	1997	1280	1995	180	330	193	213	226	246	255	260	270	280	290	300	309	321	335	345	358	375	393	453	546
USGS	13235000	1	5	1941	2004	63	0	0	1997	1140	1979	180	337	202	230	250	257	260	266	281	300	310	312	317	322	330	358	368	383	424	436	623
USGS	13235000	1	6	1941	2004	63	0	0	1997	1090	1979	155	343	220	230	243	250	260	274	280	291	300	307	324	338	344	352	376	400	423	441	607
USGS	13235000	1	7	1941	2004	63	0	0	1997	884	1979	170	340	196	240	250	250	258	263	280	287	298	305	316	336	346	378	384	410	424	449	605
USGS	13235000	1	8	1941	2004	63	0	0	1997	839	1979	185	343	212	230	244	256	270	280	287	298	310	320	333	351	359	377	388	394	422	460	594
USGS	13235000	1	9	1941	2004	63	0	0	1997	777	1987	200	339	212	240	246	263	277	281	289	291	307	320	325	352	362	376	384	398	431	477	515
USGS	13235000	1	10	1941	2004	63	0	0	1997	775	1993	200	338	212	240	250	259	262	284	293	300	312	320	330	345	352	370	390	416	438	469	499
USGS	13235000	1	11	1941	2004	63	0	0	1997	713	1963	190	333	211	243	255	262	275	280	290	295	300	310	322	340	357	364	378	411	427	451	479
USGS	13235000	1	12	1941	2004	63	0	0	1997	669	1963	160	325	221	240	254	259	267	278	287	294	308	315	321	333	347	362	370	390	401	417	451
USGS	13235000	1	13	1941	2004	63	0	0	1997	727	1963	195	336	211	237	260	266	279	285	290	294	300	315	325	337	348	358	375	390	437	476	500
USGS	13235000	1	14	1941	2004	63	0	0	1997	704	1961	220	338	232	250	260	270	278	285	292	302	315	321	331	337	350	358	369	400	412	435	538
USGS	13235000	1	15	1941	2004	63	0	0	1974	856	1961	230	339	236	260	268	278	284	289	296	306	310	324	328	336	349	353	359	364	378	432	519
USGS	13235000	1	16	1941	2004	63	0	0	1974	1600	2002	182	342	212	240	258	269	274	281	288	292	298	311	318	325	338	345	353	370	404	422	538
USGS	13235000	1	17	1941	2004	63	0	0	1974	1800	2001	200	346	230	238	250	260	270	275	280	291	308	310	323	332	334	353	360	374	400	424	506
USGS	13235000	1	18	1941	2004	63	0	0	1974	1500	1943	199	333	210	220	232	246	265	269	272	283	290	301	318	326	344	350	358	364	376	404	606
USGS	13235000	1	19	1941	2004	63	0	0	1974	1250	1990	200	328	210	225	240	240	260	267	272	280	288	300	310	323	339	350	358	361	371	421	591
USGS	13235000	1	20	1941	2004	63	0	0	1974	1060	1990	185	330	212	232	243	252	260	270	280	285	299	310	320	329	339	348	350	361	386	419	615
USGS	13235000	1	21	1941	2004	63	0	0	1974	940	1987	195	337	199	216	242	259	270	280	281	292	297	310	319	324	332	339	364	383	417	459	669
USGS	13235000	1	22	1941	2004	63	0	0	1974	870	1991	195	341	211	222	243	250	260	266	282	297	300	315	323	328	337	350	368	391	436	529	648
USGS	13235000	1	23	1941	2004	63	0	0	1974	820	1979	190	337	216	230	241	260	270	282	296	303	319	328	333	349	362	399	421	500	590		
USGS	13235000	1	24	1941	2004	63	0	0	1974	780	1977	200	336	210	226	240	250	268	275	280	300	310	321	325	333	340	354	363	378	413	461	607
USGS	13235000	1	25	1941	2004	63	0	0	1974	740	1989	195	334	221	242	251	260	278	282	291	300	308	320	323	329	337	353	358	379	405	465	599
USGS	13235000	1	26	1941	2004	63	0	0	1974	710	1989	195	326	220	220	248	254	262	280	288	298	305	309	319	332	336	344	353	369	399	431	532
USGS	13235000	1	27	1941	2004	63	0	0	2003	946	1948	190	330	203	222	240	249	263	271	281	287	291	300	312	323	329	340	363	380	402	451	583
USGS	13235000	1	28	1941	2004	63	0	0	2003	787	1979	180	319	198	214	228	234	258	260	269	279	289	300	314	317	326	346	358	365	417	437	561
USGS	13235000	1	29	1941	2004	63	0	0	1974	650	1979	155	313	198	230	231	240	256	273	281	298	300	316	328	339	349	362	398	418	545		
USGS	13235000	1	30	1941	2004	63	0	0	1974	630	1979	165	314	214	230	240	241	254	270	278	280	287	296	305	316	322	330	350	358	382	400	568
USGS	13235000	1	31	1941	2004	63	0	0	2003	814	1979	180	325	212	227	239	252	275	280	287	292	300	309	313	315	335	340	354	385	412	653	
USGS	13235000	2	1	1941	2004	63	0	0	2003	1110	1994	192	344	218	235	250	262	271	280	281	289	295	300	305	312	322	331	358	380	403	504	682
USGS	13235000	2	2	1941	2004	63	0	0	1995	1240	1988	214	345	221	232	245	252	260	270	286	299	305	311	324	328	339	343	368	412	527	635	
USGS	13235000	2	3	1941	2004	63	0	0	1963	876	1989	195	337	220	236	244	250	260	269	277	289	297	300	308	311	326	343	355	377	413	5	

agency_cd	site_no	month_nu	day_nu	begin_yr	end_yr	count_nu	count_zero	count_miss	max_va_5n	max_va_12s	min_va_5n	min_va_12s	mean_va	p05_va_Discharge	p10_va_12s	p15_va_12s	p20_va_12s	p25_va_12s	p30_va_12s	p35_va_12s	p40_va_12s	p45_va_12s	p50_va_12s	p55_va_12s	p60_va_12s	p65_va_12s	p70_va_12s	p75_va_12s	p80_va_12s	p85_va_12s	p90_va_12s	p95_va_12s	
5s	15s	3n	3n	6n	6n	63	0	0	1963	1150	1989	170	332	215	232	242	254	260	274	275	281	289	290	299	311	320	330	374	402	440	477	548	
USGS	13235000	2	5	1941	2004	63	0	0	1963	1030	1989	180	332	230	240	242	255	260	268	280	283	290	305	313	315	325	345	374	394	403	461	532	
USGS	13235000	2	6	1941	2004	63	0	0	1963	908	1989	190	334	240	240	248	250	273	280	283	297	305	306	310	314	324	339	353	370	413	466	530	
USGS	13235000	2	7	1941	2004	63	0	0	1996	934	1989	205	335	233	241	250	257	265	278	285	290	291	300	311	319	333	337	358	375	385	468	564	
USGS	13235000	2	8	1941	2004	63	0	0	1996	850	1980	212	332	230	240	246	250	262	275	280	290	299	308	314	320	326	333	355	367	406	462	565	
USGS	13235000	2	9	1941	2004	63	0	0	1996	807	1980	220	330	232	240	250	260	271	285	292	298	305	306	314	330	343	360	379	385	469	536		
USGS	13235000	2	10	1941	2004	63	0	0	1996	738	1955	200	327	230	240	250	253	260	270	282	291	299	301	308	323	336	342	355	372	385	462	537	
USGS	13235000	2	11	1941	2004	63	0	0	1996	691	1988	219	330	222	241	250	255	260	272	281	295	302	308	312	320	338	347	368	389	424	450	528	
USGS	13235000	2	12	1941	2004	63	0	0	1996	677	1949	220	333	230	246	251	258	270	284	295	307	313	315	323	338	360	372	400	433	468	512		
USGS	13235000	2	13	1941	2004	63	0	0	1996	689	1990	202	335	224	239	255	264	271	280	284	291	298	306	313	338	351	361	384	393	424	470	534	
USGS	13235000	2	14	1941	2004	63	0	0	1982	753	1990	208	339	231	240	250	258	280	286	294	300	305	310	325	342	350	362	363	382	426	457	542	
USGS	13235000	2	15	1941	2004	63	0	0	1982	920	1988	228	343	237	250	260	267	275	280	288	298	305	306	317	339	349	358	363	387	408	474	538	
USGS	13235000	2	16	1941	2004	63	0	0	1982	920	1988	236	343	237	250	261	270	271	285	296	305	310	321	328	349	358	366	384	405	457	509		
USGS	13235000	2	17	1941	2004	63	0	0	1982	784	1993	202	344	241	251	260	265	272	278	284	290	302	306	315	334	348	357	365	387	407	502	670	
USGS	13235000	2	18	1941	2004	63	0	0	1996	801	1955	220	344	234	252	264	271	279	284	289	297	306	312	326	331	345	367	376	384	418	487	545	
USGS	13235000	2	19	1941	2004	63	0	0	1996	875	1955	210	348	223	250	263	270	273	279	286	292	299	313	318	336	354	362	376	389	446	481	672	
USGS	13235000	2	20	1941	2004	63	0	0	1996	848	1990	220	354	226	242	257	265	270	279	288	296	308	317	325	339	356	369	384	398	439	545	699	
USGS	13235000	2	21	1941	2004	63	0	0	1982	835	1964	230	354	233	245	257	260	275	286	289	298	302	313	321	347	360	372	395	411	423	516	645	
USGS	13235000	2	22	1941	2004	63	0	0	1982	1350	1989	236	363	244	252	261	270	271	285	296	305	310	321	328	349	358	366	384	405	457	509		
USGS	13235000	2	23	1941	2004	63	0	0	1982	1140	1960	237	364	243	256	268	277	280	291	299	310	314	317	325	343	352	369	379	393	455	511	697	
USGS	13235000	2	24	1941	2004	63	0	0	1986	1100	1977	234	366	251	259	262	268	274	284	290	306	312	322	327	343	360	372	387	419	465	521	685	
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USGS	13235000	2	26	1941	2004	63	0	0	1986	1230	2002	220	367	240	249	260	274	278	280	296	300	318	329	343	356	386	410	439	507	521	647		
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USGS	13235000	3	1	1941	2004	63	0	0	1986	1140	1993	210	368	236	252	266	280	293	299	304	309	322	336	349	351	367	389	438	461	473	516	551	
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USGS	13235000	3	9	1941	2004	63	0	0	1986	1650	2002	240	394	263	271	282	292	298	312	319	334	341	344	351	375	408							

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5s	15s	3n	3n	6n	6n	63	0	0	1996	2250	1975	288	825	368	417	445	472	518	569	592	636	662	750	782	829	926	992	1030	1052	1204	1442	1680
USGS	13235000	4	10	1941	2004	63	0	0	1996	2030	1975	300	831	370	412	449	469	512	573	597	663	684	756	790	848	925	969	1050	1170	1266	1419	1660
USGS	13235000	4	11	1941	2004	63	0	0	1996	2030	1975	300	831	370	412	449	469	512	573	597	663	684	756	790	848	925	969	1050	1170	1266	1419	1660
USGS	13235000	4	12	1941	2004	63	0	0	1943	2110	1975	340	869	368	408	432	495	528	609	646	697	728	770	831	895	922	1010	1160	1228	1314	1440	1708
USGS	13235000	4	13	1941	2004	63	0	0	1943	2390	1945	343	894	376	417	421	511	593	619	641	715	775	826	872	934	1030	1092	1170	1212	1326	1504	1656
USGS	13235000	4	14	1941	2004	63	0	0	1943	2580	1945	338	951	383	406	457	539	566	614	712	768	779	909	960	1008	1082	1170	1210	1293	1396	1584	1880
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USGS	13235000	4	17	1941	2004	63	0	0	1943	3110	1955	372	1060	427	468	509	608	671	766	791	886	924	978	1024	1144	1208	1310	1419	1582	1774	1933	
USGS	13235000	4	18	1941	2004	63	0	0	1943	3070	1955	402	1099	429	470	538	611	734	765	850	882	920	948	1134	1172	1232	1390	1464	1642	1796	2010	
USGS	13235000	4	19	1941	2004	63	0	0	1943	3340	1955	368	1131	434	507	573	631	719	770	843	869	893	963	1142	1168	1216	1280	1530	1666	1714	1840	2176
USGS	13235000	4	20	1941	2004	63	0	0	1943	3230	1955	350	1185	454	509	547	671	750	792	846	897	924	1060	1192	1228	1286	1378	1510	1613	1820	2130	2516
USGS	13235000	4	21	1941	2004	63	0	0	1943	3080	1955	358	1223	447	507	541	686	729	804	858	909	1042	1160	1240	1296	1351	1524	1600	1634	1774	2016	2780
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USGS	13235000	4	23	1941	2004	63	0	0	1956	2760	1955	417	1276	445	517	590	649	785	866	885	1016	1078	1120	1283	1334	1540	1658	1690	1772	2006	2270	2572
USGS	13235000	4	24	1941	2004	63	0	0	1974	2900	1955	407	1306	470	541	591	644	764	854	945	962	1008	1180	1308	1454	1518	1600	1680	1854	2086	2412	2606
USGS	13235000	4	25	1941	2004	63	0	0	1974	2700	1955	402	1292	502	558	614	655	736	817	893	1006	1080	1200	1272	1372	1476	1580	1780	1884	2202	2330	2412
USGS	13235000	4	26	1941	2004	63	0	0	1946	2750	1955	417	1269	511	590	628	737	807	855	940	1076	1190	1238	1320	1400	1564	1700	1878	2028	2266	2432	
USGS	13235000	4	27	1941	2004	63	0	0	1952	3130	1955	397	1264	495	594	639	715	765	813	857	940	1050	1140	1293	1386	1466	1729	1787	2000	2218	2444	
USGS	13235000	4	28	1941	2004	63	0	0	1952	3310	1955	382	1300	492	589	679	729	790	845	920	994	1092	1150	1210	1308	1566	1658	1760	1787	1976	2248	2526
USGS	13235000	4	29	1941	2004	63	0	0	1952	2860	1955	402	1307	480	659	736	780	844	905	970	1022	1076	1110	1296	1419	1504	1658	1690	1800	1912	2152	2604
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USGS	13235000	5	1	1941	2004	63	0	0	1965	3190	1967	420	1371	509	686	798	887	956	982	1048	1148	1256	1270	1364	1464	1580	1700	1800	1818	2012	2090	2388
USGS	13235000	5	2	1941	2004	63	0	0	1981	3070	1967	416	1436	575	698	770	854	967	1046	1126	1190	1228	1270	1392	1550	1656	1756	1840	2150	2440	2552	
USGS	13235000	5	3	1941	2004	63	0	0	1947	3130	1967	432	1502	610	727	775	871	967	1038	1130	1168	1303	1350	1424	1512	1690	1828	1930	2094	2294	2696	2862
USGS	13235000	5	4	1941	2004	63	0	0	1947	3370	1967	473	1559	568	724	829	923	985	1132	1160	1230	1296	1380	1444	1582	1820	1923	1980	2208	2384	2726	2970
USGS	13235000	5	5	1941	2004	63	0	0	1947	3350	1977	488	1597	597	768	873	897	1010	1190	1283	1332	1368	1429	1482	1920	2036	2110	2130	2346	2768	2928	
USGS	13235000	5	6	1941	2004	63	0	0	1947	3420	1977	462	1653	622	795	852	915	1080	1182	1328	1398	1448	1570	1690	1814	1860	1942	2090	2352	2400	2682	3056
USGS	13235000	5	7	1941	2004	63	0	0	1947	3660	1977	450	1732	720	812	871	1019	1130	1300	1424	1518	1581	1610	1684	1830	2010	2166	2280	2420	2514	2676	3196
USGS	13235000	5	8	1941	2004	63	0	0	1947	4190	1977	437	1797	794	845	932	994	1250	1370	1442	1500	1586	1660	1714	1766	2058	2196	2384	2542	2859	3236	
USGS	13235000	5	9	1941	2004	63	0	0	1947	4350	1977	425	1841	815	894	993	1078	1280	1306	1438	1526	1568	1600	1734	1840	2118	2172	2400	2703	2824	2996	3298
USGS	13235000	5	10	1941	2004	63	0	0	1947	3560	1977	488	1872	842	926	1050	1144	1210	1274	1396	1510	1538	1620	1746	1996	2092	2306	2480	2708	3028	3136	3398
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USGS	13235000	5	12	1941	2004	63	0	0																								

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5s	15s	3n	3n	6n	6n	8n	8n	8n	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974		
USGS	13235000	6	14	1941	2004	64	0	0	1974	7500	1987	670	2812	817	1335	1573	2000	2113	2150	2263	2480	2555	2700	2720	2819	2885	3120	3503	3740	4103	4480	5265	
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USGS	13235000	6	17	1941	2004	64	0	0	1974	8600	1987	617	2754	701	1345	1510	1590	1865	1945	2070	2220	2373	2605	2665	2880	3018	3145	3378	3860	3985	4915	5360	
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USGS	13235000	6	21	1941	2004	64	0	0	1974	6600	1987	524	2595	605	1175	1318	1440	1620	1660	1863	2170	2280	2500	2725	2839	3050	3305	3800	3945	4295	5020		
USGS	13235000	6	22	1941	2004	64	0	0	1974	6300	1987	504	2536	594	1185	1283	1360	1485	1670	1865	1990	2100	2385	2592	2839	2890	3060	3155	3700	3993	4235	5200	
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USGS	13235000	7	3	1941	2004	64	0	0	1982	4400	1987	426	1839	452	696	851	972	1010	1095	1235	1380	1448	1535	1660	1810	2044	2365	2570	2810	3090	3500	3880	
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USGS	13235000	7	5	1941	2004	64	0	0	1975	4520	1987	411	1719	446	678	783	920	965	1090	1115	1260	1440	1450	1538	1690	1850	2265	2470	2600	2935	3230	3590	
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USGS	13235000	7	12	1941	2004	64	0	0	1975	3360	1977	331	1329	388	545	639	711	745	826	870	1030	1125	1155	1233	1340	1520	1755	1990	2293	2420	2793		
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USGS	13235000	7	14	1941	2004	64	0	0	1982	3160	1977	319	1225	375	519	617	662	711	771	801	1010	1043</td											

agency_cd	site_no	month_nu	day_nu	begin_yr	end_yr	count_nu	count_zero	count_miss	max_va_5n	max_va_12s	min_va_5n	min_va_12s	mean_va_Discharge	p05_va_12s	p10_va_12s	p15_va_12s	p20_va_12s	p25_va_12s	p30_va_12s	p35_va_12s	p40_va_12s	p45_va_12s	p50_va_12s	p55_va_12s	p60_va_12s	p65_va_12s	p70_va_12s	p75_va_12s	p80_va_12s	p85_va_12s	p90_va_12s	p95_va_12s	
5s	15s	3n	3n	6n	6n	8n	8n	8n	1993	818	1977	208	490	253	301	340	360	374	403	419	439	453	465	480	515	563	578	600	647	668	693	751	
USGS	13235000	8	18	1941	2004	64	0	0	1993	818	1977	208	490	253	301	340	360	374	403	419	439	453	465	480	515	563	578	600	647	668	693	751	
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USGS	13235000	8	20	1941	2004	64	0	0	1974	810	1977	203	479	252	293	333	349	371	388	418	429	451	461	473	502	536	555	575	633	650	687	743	
USGS	13235000	8	21	1941	2004	64	0	0	1965	812	1977	203	472	249	288	327	349	370	380	409	422	447	457	470	489	536	552	570	614	638	654	708	
USGS	13235000	8	22	1941	2004	64	0	0	1965	812	1977	203	467	247	287	333	350	365	377	411	422	437	446	456	481	527	546	561	611	629	654	687	
USGS	13235000	8	23	1941	2004	64	0	0	1965	780	1977	203	471	249	285	332	343	364	395	412	429	441	450	463	478	525	541	571	607	644	662	726	
USGS	13235000	8	24	1941	2004	64	0	0	1975	798	1977	208	463	248	282	332	345	367	387	410	421	429	434	450	472	519	535	549	593	620	653	714	
USGS	13235000	8	25	1941	2004	64	0	0	1965	725	2001	238	454	252	288	330	338	358	390	407	413	424	432	448	465	507	524	535	575	597	631	679	
USGS	13235000	8	26	1941	2004	64	0	0	1965	710	2001	234	448	249	299	325	338	368	384	393	408	418	423	443	484	510	521	539	566	575	614	637	
USGS	13235000	8	27	1941	2004	64	0	0	1965	680	2001	229	439	248	300	326	338	365	381	387	406	411	419	444	449	488	518	522	550	558	593	621	
USGS	13235000	8	28	1941	2004	64	0	0	1983	665	2001	225	432	246	284	323	335	359	375	389	395	407	414	427	442	477	502	509	545	563	586	612	
USGS	13235000	8	29	1941	2004	64	0	0	1983	660	2001	225	425	243	277	313	324	358	363	383	390	401	406	427	439	470	484	500	534	555	582	602	
USGS	13235000	8	30	1941	2004	64	0	0	1983	651	2001	225	422	242	282	312	329	347	360	372	385	391	401	418	440	470	479	500	529	554	582	623	
USGS	13235000	8	31	1941	2004	64	0	0	1984	664	2001	223	420	243	295	313	333	346	356	369	378	385	396	429	450	462	472	507	514	555	574	610	
USGS	13235000	9	1	1941	2004	64	0	0	1983	635	2001	221	417	241	279	323	341	349	353	370	374	380	392	423	450	465	479	501	518	539	560	597	
USGS	13235000	9	2	1941	2004	64	0	0	1983	635	2001	220	412	239	266	326	343	347	350	363	368	385	398	424	440	450	460	484	512	528	550	583	
USGS	13235000	9	3	1941	2004	64	0	0	1983	627	2001	218	406	238	263	318	335	343	346	362	366	380	398	414	422	442	476	490	516	541	567		
USGS	13235000	9	4	1941	2004	64	0	0	1983	603	2001	217	400	240	261	309	330	336	342	355	366	380	398	416	420	434	444	463	494	508	539	563	
USGS	13235000	9	5	1941	2004	64	0	0	1983	596	2001	220	396	239	260	305	320	329	347	356	368	374	390	400	417	432	440	473	486	507	523	552	
USGS	13235000	9	6	1941	2004	64	0	0	1984	648	1977	228	397	241	273	306	318	335	343	357	362	365	369	392	400	412	418	438	466	475	508	529	578
USGS	13235000	9	7	1941	2004	64	0	0	1978	652	1977	223	398	240	268	303	324	339	343	352	358	369	388	400	412	426	445	460	471	512	541	578	
USGS	13235000	9	8	1941	2004	64	0	0	1985	835	1977	223	401	236	266	298	328	335	341	351	359	374	391	408	412	425	453	458	492	507	515	605	
USGS	13235000	9	9	1941	2004	64	0	0	1985	805	1977	218	401	236	263	295	322	330	336	346	352	375	389	400	412	430	447	454	497	507	553	607	
USGS	13235000	9	10	1941	2004	64	0	0	1985	760	1977	218	393	233	250	304	319	328	333	342	353	370	384	393	400	422	440	449	483	501	534	566	
USGS	13235000	9	11	1941	2004	64	0	0	1985	680	1977	218	393	234	255	304	312	327	337	352	361	373	379	392	400	434	441	461	480	494	509	603	
USGS	13235000	9	12	1941	2004	64	0	0	1985	700	1977	213	393	241	257	300	310	319	330	341	362	370	379	392	422	431	435	458	480	492	522	592	
USGS	13235000	9	13	1941	2004	64	0	0	1985	620	1977	213	387	243	259	295	304	312	325	340	363	371	378	394	404	426	435	461	475	491	505	570	
USGS	13235000	9	14	1941	2004	64	0	0	1978	556	1977	213	381	241	261	292	301	310	324	333	358	368	381	390	418	426	436	452	458	468	497	535	
USGS	13235000	9	15	1941	2004	64	0	0	1959	602	1977	218	382	240	259	292	304	312	321	335	362	366	377	396	412	419	428	442	452	486	501	539	
USGS	13235000	9	16	1941	2004	64	0	0	1965	623	1994	233	382	235	259	292	305	314	318	337	358	372	378	396	412	430	437	462	484	505	545		
USGS	13235000	9	17	1941	2004	64	0	0	1965	567	1994	232	383	238	259	299	310	317	331	342	352	363	370	398	403	418	423	458	478	509	555		
USGS	13235000	9	18	1941	2004	64	0	0	1997	570	1994	230	381	238	257	294	312	318	335	343	359	363	375	396	403	410	418	433	456	470	497	542	
USGS	13235000	9	19	1941	2004	64	0	0	1997	541	1994	228	381	240	251	294	306	315	324	345</													

agency_cd	site_no	month_nu	day_nu	begin_yr	end_yr	count_nu	count_zero	count_miss	max_va_5n	max_va_12s	min_va_5n	min_va_12s	mean_va_Discharge	p05_va_12s	p10_va_12s	p15_va_12s	p20_va_12s	p25_va_12s	p30_va_12s	p35_va_12s	p40_va_12s	p45_va_12s	p50_va_12s	p55_va_12s	p60_va_12s	p65_va_12s	p70_va_12s	p75_va_12s	p80_va_12s	p85_va_12s	p90_va_12s	p95_va_12s
5s	15s	3n	3n	6n	6n	8n	8n	8n	1975	593	1988	223	355	231	241	267	293	310	314	318	322	329	336	348	364	375	389	401	412	441	459	542
USGS	13235000	10	22	1941	2004	63	0	0	1975	593	1988	223	355	231	241	267	293	310	314	318	322	329	336	348	364	375	389	401	412	441	459	542
USGS	13235000	10	23	1941	2004	63	0	0	1959	612	1988	223	360	231	246	286	301	308	314	316	324	331	336	359	369	382	387	400	414	439	492	562
USGS	13235000	10	24	1941	2004	63	0	0	1985	715	1988	223	361	229	244	277	301	306	310	313	316	327	331	345	365	379	393	412	413	435	469	590
USGS	13235000	10	25	1941	2004	63	0	0	1985	698	1988	223	357	229	249	272	296	305	309	312	318	329	336	346	363	370	384	390	410	430	471	542
USGS	13235000	10	26	1941	2004	63	0	0	1982	701	1988	220	363	233	254	272	296	310	311	314	320	329	337	350	368	370	387	400	416	450	511	619
USGS	13235000	10	27	1941	2004	63	0	0	1982	676	1988	219	358	232	250	270	299	306	310	313	319	325	334	343	359	375	390	404	411	445	488	596
USGS	13235000	10	28	1941	2004	63	0	0	1967	779	1988	219	365	232	252	272	301	305	310	316	322	330	336	343	353	369	390	407	415	463	531	580
USGS	13235000	10	29	1941	2004	63	0	0	1950	705	1988	219	361	234	261	284	300	307	310	313	315	321	337	341	352	374	389	409	417	428	519	564
USGS	13235000	10	30	1941	2004	63	0	0	1950	748	1988	217	362	235	263	284	302	306	310	312	316	326	334	340	350	375	386	417	433	462	509	559
USGS	13235000	10	31	1941	2004	63	0	0	1950	665	1988	219	362	242	261	295	306	308	310	313	319	329	337	349	357	371	398	417	430	447	488	542
USGS	13235000	11	1	1941	2004	63	0	0	1950	618	2002	200	361	236	256	294	305	309	315	320	328	334	342	349	366	383	400	406	413	447	477	545
USGS	13235000	11	2	1941	2004	63	0	0	1950	618	2002	200	355	235	261	290	298	306	311	313	317	328	339	346	364	385	398	406	416	436	471	492
USGS	13235000	11	3	1941	2004	63	0	0	1950	589	1991	215	355	228	271	289	299	305	313	317	324	332	336	345	359	367	384	400	417	439	466	518
USGS	13235000	11	4	1941	2004	63	0	0	1941	628	2002	220	360	242	262	283	299	309	311	317	324	330	337	346	369	382	392	400	432	444	464	555
USGS	13235000	11	5	1941	2004	63	0	0	1943	731	2003	217	358	244	272	280	296	303	306	316	321	331	343	357	362	371	383	390	412	426	453	557
USGS	13235000	11	6	1941	2004	63	0	0	1983	570	2003	230	354	254	281	291	295	303	304	310	321	330	348	360	367	372	382	390	401	426	446	524
USGS	13235000	11	7	1941	2004	63	0	0	1983	957	2003	220	364	258	272	286	294	298	303	307	313	320	337	350	365	379	390	395	412	444	467	544
USGS	13235000	11	8	1941	2004	63	0	0	1980	1040	1994	229	367	243	271	287	290	293	301	307	312	320	331	363	369	376	386	400	420	440	466	568
USGS	13235000	11	9	1941	2004	63	0	0	1980	684	1977	226	362	252	266	280	290	296	306	310	316	323	341	356	361	387	393	407	427	461	482	527
USGS	13235000	11	10	1941	2004	63	0	0	1973	806	1987	240	363	255	266	280	283	291	309	312	317	329	348	353	367	386	405	413	420	440	457	546
USGS	13235000	11	11	1941	2004	63	0	0	1973	962	1987	243	367	246	261	275	293	293	301	314	318	325	333	353	368	382	406	407	412	431	463	510
USGS	13235000	11	12	1941	2004	63	0	0	1973	1620	1977	246	384	253	269	289	297	303	312	314	317	325	330	345	355	374	382	403	414	433	470	797
USGS	13235000	11	13	1941	2004	63	0	0	1973	1450	1977	241	377	249	271	281	286	293	308	314	319	325	347	356	371	378	391	406	424	438	454	654
USGS	13235000	11	14	1941	2004	63	0	0	1973	1050	1994	222	374	252	267	278	291	291	303	310	314	319	332	349	358	362	387	412	414	434	478	677
USGS	13235000	11	15	1941	2004	63	0	0	1941	1470	1994	200	379	246	256	271	281	293	301	308	325	336	342	349	360	367	378	400	409	426	453	691
USGS	13235000	11	16	1941	2004	63	0	0	1941	1000	1961	246	366	252	258	264	280	285	298	307	315	329	338	344	358	368	383	398	414	439	459	615
USGS	13235000	11	17	1941	2004	63	0	0	1941	845	1961	237	363	240	257	270	283	295	303	310	318	330	337	339	350	370	380	397	407	444	477	663
USGS	13235000	11	18	1941	2004	63	0	0	1973	736	1987	175	360	203	251	272	284	287	300	305	322	330	337	346	360	380	389	399	408	449	482	652
USGS	13235000	11	19	1941	2004	63	0	0	1996	1520	1977	160	372	212	248	265	275	287	290	301	321	327	332	336	361	377	390	406	426	464	516	
USGS	13235000	11	20	1941	2004	63	0	0	1996	1420	1979	185	373	220	249	267	280	292	296	301	308	317	328	335	357	377	382	406	437	461	533	
USGS	13235000	11	21	1941	2004	63	0	0	1996	957	1979	140	364	203	253	258	265	286	291	298	302	318	325	337	367	379	389	406	434	461	533	
USGS	13235000	11	22	1941	2004	63	0	0	1996	824	1994	160	359	219	261	267	278	285	293	298	308	320	327	350	367	382	390	411	475	513	602	
USGS	13235000	11	23	1941	2004	63	0	0	1996	740	1994	180	358	236	261	270	280															

agency_cd	site_no	month_nu	day_nu	begin_yr	end_yr	count_nu	count_zero	count_miss	max_va_yr	max_va	min_va_yr	min_va	mean_va	p05_va	p10_va	p15_va	p20_va	p25_va	p30_va	p35_va	p40_va	p45_va	p50_va	p55_va	p60_va	p65_va	p70_va	p75_va	p80_va	p85_va	p90_va	p95_va
5s	15s	3n	3n	6n	6n	8n	8n	8n	5n	12s	5n	12s	Discharge	12s																		
USGS	13235000	12	26	1941	2004	63	0	0	1964	1500	2001	180	356	202	220	231	239	246	265	275	288	306	315	322	324	331	350	359	378	418	476	1007
USGS	13235000	12	27	1941	2004	63	0	0	1964	1250	1979	178	353	210	230	240	240	246	272	280	290	301	308	311	322	344	361	370	391	421	468	883
USGS	13235000	12	28	1941	2004	63	0	0	1964	1070	1979	140	354	216	230	236	250	260	264	280	290	305	315	325	337	358	379	407	423	438	510	765
USGS	13235000	12	29	1941	2004	63	0	0	1945	1120	1979	160	358	200	220	238	258	265	279	286	291	300	310	315	332	338	374	398	418	472	525	743
USGS	13235000	12	30	1941	2004	63	0	0	1996	879	1994	140	347	201	220	240	259	260	274	280	285	293	300	311	329	346	367	390	406	449	529	664
USGS	13235000	12	31	1941	2004	63	0	0	1996	1300	1994	130	349	202	230	248	255	261	278	288	298	300	306	310	327	347	357	366	404	419	511	662

### USGS Gage at Lowman

<b>Source</b>	<b>Station</b>	<b>Date</b>	<b>Time</b>	<b>Lab Code</b>	<b>SSC Conc.</b>
USGS	13235000	11/8/1991	10:40	80154	4
USGS	13235000	3/3/1992	12:35	80154	9
USGS	13235000	5/13/1992	13:00	80154	38
USGS	13235000	9/1/1992	11:50	80154	1
USGS	13235000	4/18/1994	12:30	80154	38
USGS	13235000	4/18/1994	12:45	80154	38
USGS	13235000	4/20/1994	10:26	80154	75
USGS	13235000	4/20/1994	10:50	80154	75
USGS	13235000	4/25/1994	12:00	80154	13
USGS	13235000	4/25/1994	13:40	80154	13
USGS	13235000	4/27/1994	9:45	80154	9
USGS	13235000	4/27/1994	10:13	80154	9
USGS	13235000	5/2/1994	12:18	80154	4
USGS	13235000	5/2/1994	13:18	80154	4
USGS	13235000	5/4/1994	9:30	80154	4
USGS	13235000	5/4/1994	9:48	80154	4
USGS	13235000	5/9/1994	14:28	80154	53
USGS	13235000	5/9/1994	14:30	80154	53
USGS	13235000	5/11/1994	9:35	80154	81
USGS	13235000	5/11/1994	12:15	80154	81
USGS	13235000	5/14/1994	12:40	80154	35
USGS	13235000	5/14/1994	14:45	80154	35
USGS	13235000	5/16/1994	9:40	80154	18
USGS	13235000	5/16/1994	11:40	80154	18
USGS	13235000	5/17/1994	11:45	80154	12
USGS	13235000	5/17/1994	13:40	80154	12
USGS	13235000	5/23/1994	12:45	80154	4
USGS	13235000	5/23/1994	14:15	80154	4
USGS	13235000	5/25/1994	9:10	80154	10
USGS	13235000	5/25/1994	10:30	80154	10
USGS	13235000	5/31/1994	13:58	80154	12
USGS	13235000	5/31/1994	15:50	80154	12
USGS	13235000	6/2/1994	8:50	80154	9
USGS	13235000	6/2/1994	10:30	80154	9
USGS	13235000	6/6/1994	12:55	80154	5
USGS	13235000	6/6/1994	14:45	80154	5
USGS	13235000	6/13/1994	12:30	80154	6
USGS	13235000	6/13/1994	14:00	80154	6
USGS	13235000	11/22/1994	13:10	80154	1
USGS	13235000	3/22/1995	13:40	80154	8
USGS	13235000	5/1/1995	12:20	80154	12
USGS	13235000	5/2/1995	10:55	80154	21
USGS	13235000	5/8/1995	13:00	80154	27
USGS	13235000	5/9/1995	9:12	80154	50
USGS	13235000	5/16/1995	12:25	80154	71
USGS	13235000	5/17/1995	12:25	80154	125
USGS	13235000	5/19/1995	15:10	80154	121
USGS	13235000	5/22/1995	15:00	80154	115
USGS	13235000	5/23/1995	9:30	80154	126

**USGS Gage at Lowman**

<b>Source</b>	<b>Station</b>	<b>Date</b>	<b>Time</b>	<b>Lab Code</b>	<b>SSC Conc.</b>
USGS	13235000	5/25/1995	13:00	80154	81
USGS	13235000	5/30/1995	12:45	80154	124
USGS	13235000	5/31/1995	11:15	80154	215
USGS	13235000	6/3/1995	19:36	80154	173
USGS	13235000	6/4/1995	19:55	80154	229
USGS	13235000	6/5/1995	14:43	80154	374
USGS	13235000	6/14/1995	14:40	80154	126
USGS	13235000	6/19/1995	17:31	80154	134
USGS	13235000	6/20/1995	15:38	80154	87
USGS	13235000	6/26/1995	17:42	80154	100
USGS	13235000	6/27/1995	15:32	80154	159
USGS	13235000	9/18/1995	16:00	80154	1
USGS	13235000	5/17/1997	17:45	80154	692
USGS	13235000	5/17/1997	18:00	80154	692
USGS	13235000	4/14/1998	11:05	80154	2
USGS	13235000	5/11/1998	13:40	80154	66
USGS	13235000	6/15/1998	11:30	80154	32
USGS	13235000	7/16/1998	12:10	80154	16
USGS	13235000	8/13/1998	10:55	80154	3
USGS	13235000	9/17/1998	10:50	80154	10
USGS	13235000	4/9/2001	13:10	80154	1
USGS	13235000	5/8/2001	16:20	80154	5
USGS	13235000	6/5/2001	14:15	80154	3
USGS	13235000	7/10/2001	15:30	80154	12
USGS	13235000	8/6/2001	16:00	80154	1
USGS	13235000	9/24/2001	13:25	80154	1

## Normalized Discharge, SF Payette at Lowman

(1.5604\*ln(avg flow)]

Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date			Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor			Discharge			80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor			Discharge			80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor		
					^+ or -	%24%	^+ or -				^+ or -	%24%	^+ or -	%24%	^+ or -	%24%	^+ or -				^+ or -	%24%	^+ or -	%24%	^+ or -	^+ or -				%24%	^+ or -	%24%	
Jan	1	1941	2004	63	367	10044	5.0	11	2.7	13.9	8.5	Jan	1	372	10258	5.1	11	2.7	14.0	8.6	Jan	1	3240	300507	150.3	38	9.1	47.0	28.8				
Jan	2	1941	2004	63	352	9411	4.7	11	2.6	13.5	8.3	Jan	2	369	10129	5.1	11	2.7	13.9	8.5	Jan	2	2470	196772	98.4	33	7.8	40.4	24.7				
Jan	3	1941	2004	63	334	8671	4.3	11	2.5	13.2	8.1	Jan	3	374	10344	5.2	11	2.7	14.0	8.6	Jan	3	1610	10909	50.5	26	6.1	31.8	19.5				
Jan	4	1941	2004	63	330	8509	4.3	11	2.5	13.1	8.0	Jan	4	375	10388	5.2	11	2.7	14.0	8.6	Jan	4	1280	70549	35.3	23	5.4	27.9	17.1				
Jan	5	1941	2004	63	337	8793	4.4	11	2.6	13.2	8.1	Jan	5	383	10736	5.4	11	2.7	14.2	8.7	Jan	5	1140	58884	29.4	21	5.1	26.2	16.0				
Jan	6	1941	2004	63	343	9038	4.5	11	2.6	13.4	8.2	Jan	6	400	11488	5.7	12	2.8	14.6	8.9	Jan	6	1090	54909	27.5	21	4.9	25.5	15.6				
Jan	7	1941	2004	63	340	8915	4.5	11	2.6	13.3	8.1	Jan	7	410	11940	6.0	12	2.9	14.8	9.0	Jan	7	884	39595	19.8	18	4.4	22.7	13.9				
Jan	8	1941	2004	63	343	9038	4.5	11	2.6	13.4	8.2	Jan	8	394	11221	5.6	12	2.8	14.4	8.8	Jan	8	839	36495	18.2	18	4.3	22.0	13.5				
Jan	9	1941	2004	63	339	8874	4.4	11	2.6	13.3	8.1	Jan	9	398	11399	5.7	12	2.8	14.5	8.9	Jan	9	777	32375	16.2	17	4.1	21.1	12.9				
Jan	10	1941	2004	63	338	8833	4.4	11	2.6	13.2	8.1	Jan	10	416	12213	6.1	12	2.9	14.9	9.1	Jan	10	775	32425	16.1	17	4.1	21.1	12.9				
Jan	11	1941	2004	63	333	8630	4.3	11	2.5	13.1	8.0	Jan	11	411	11985	6.0	12	2.9	14.8	9.1	Jan	11	713	28311	14.2	16	3.9	20.1	12.3				
Jan	12	1941	2004	63	325	8309	4.2	10	2.5	13.0	7.9	Jan	12	390	11043	5.5	12	2.8	14.3	8.8	Jan	12	669	25633	12.8	16	3.8	19.4	11.9				
Jan	13	1941	2004	63	336	8752	4.4	11	2.6	13.2	8.1	Jan	13	390	11043	5.5	12	2.8	14.3	8.8	Jan	13	727	29184	14.6	16	3.9	20.3	12.5				
Jan	14	1941	2004	63	338	8833	4.4	11	2.6	13.2	8.1	Jan	14	400	11488	5.7	12	2.8	14.6	8.9	Jan	14	704	27756	13.9	16	3.9	20.0	12.2				
Jan	15	1941	2004	63	339	8874	4.4	11	2.6	13.3	8.1	Jan	15	364	9916	5.0	11	2.7	13.8	8.5	Jan	15	856	37656	18.8	18	4.3	22.3	13.7				
Jan	16	1941	2004	63	342	8997	4.5	11	2.6	13.3	8.2	Jan	16	370	10172	5.1	11	2.7	13.9	8.5	Jan	16	1600	99933	50.0	26	6.1	31.7	19.4				
Jan	17	1941	2004	63	346	9162	4.6	11	2.6	13.4	8.2	Jan	17	374	10344	5.2	11	2.7	14.0	8.6	Jan	17	1800	201096	60.0	27	6.5	33.8	20.7				
Jan	18	1941	2004	63	333	8630	4.3	11	2.5	13.1	8.0	Jan	18	364	9916	5.0	11	2.7	13.8	8.5	Jan	18	1500	90359	45.2	25	5.9	30.5	18.7				
Jan	19	1941	2004	63	328	8429	4.2	11	2.5	13.0	8.0	Jan	19	361	9789	4.9	11	2.7	13.7	8.4	Jan	19	1250	67988	34.0	22	5.3	27.6	16.9				
Jan	20	1941	2004	63	330	8509	4.3	11	2.5	13.1	8.0	Jan	20	361	9789	4.9	11	2.7	13.7	8.4	Jan	20	1060	52564	26.3	20	4.9	25.1	15.4				
Jan	21	1941	2004	63	337	8793	4.4	11	2.6	13.2	8.1	Jan	21	383	10736	5.4	11	2.7	14.2	8.7	Jan	21	940	43578	21.8	19	4.5	23.5	14.4				
Jan	22	1941	2004	63	341	8956	4.5	11	2.6	13.3	8.2	Jan	22	391	11087	5.5	12	2.8	14.4	8.8	Jan	22	870	38621	19.3	18	4.4	22.5	13.8				
Jan	23	1941	2004	63	337	8793	4.4	11	2.6	13.2	8.1	Jan	23	399	11443	5.7	12	2.8	14.5	8.9	Jan	23	820	35214	17.6	18	4.2	21.8	13.3				
Jan	24	1941	2004	63	336	8752	4.4	11	2.6	13.2	8.1	Jan	24	378	10518	5.3	11	2.7	14.1	8.6	Jan	24	780	32570	16.3	17	4.1	21.2	13.0				
Jan	25	1941	2004	63	334	8671	4.3	11	2.5	13.2	8.1	Jan	25	379	10561	5.3	11	2.7	14.1	8.7	Jan	25	740	30002	15.0	17	4.0	20.5	12.6				
Jan	26	1941	2004	63	326	8349	4.2	10	2.5	13.0	8.0	Jan	26	369	10129	5.1	11	2.7	13.9	8.5	Jan	26	710	28126	14.1	16	3.9	20.1	12.3				
Jan	27	1941	2004	63	330	8509	4.3	11	2.5	13.1	8.0	Jan	27	380	10605	5.3	11	2.7	14.1	8.7	Jan	27	946	44013	22.0	19	4.6	23.6	14.5				
Jan	28	1941	2004	63	319	8071	4.0	10	2.5	12.8	7.9	Jan	28	365	9595	5.0	11	2.7	13.8	8.5	Jan	28	787	33028	16.5	17	4.1	21.3	13.0				
Jan	29	1941	2004	63	313	7835	3.9	10	2.5	12.7	7.8	Jan	29	362	9831	4.9	11	2.7	13.8	8.4	Jan	29	650	24506	12.3	15	3.7	19.1	11.7				
Jan	30	1941	2004	63	314	7874	3.9	10	2.5	12.7	7.8	Jan	30	358	9662	4.8	11	2.6	13.7	8.4	Jan	30	630	23339	11.7	15	3.6	18.8	11.5				
Jan	31	1941	2004	63	325	8309	4.2	10	2.5	13.0	7.9	Jan	31	354	9494	4.7	11	2.6	13.6	8.3	Jan	31	814	34813	17.4	17	4.2	21.7	13.3				
Feb	1	1941	2004	63	344	9079	4.5	11	2.6	13.4	8.2	Feb	1	380	10605	5.3	11	2.7	14.1	8.7	Feb	1	1110	56484	28.2	21	5.0	25.8	15.8				
Feb	2	1941	2004	63	345	9120	4.6	11	2.6	13.4	8.2	Feb	2	368	10087	5.0	11	2.7	13.9	8.5	Feb	2	1240	67139	33.6	22	5.3	27.4	16.8				
Feb	3	1941	2004	63	337	8793	4.4	11	2.6	13.2	8.1	Feb	3	377	10474	5.2	11	2.7	14.1	8.6	Feb	3	876	39038	19.5	18	4.4	22.6	13.8				
Feb	4	1941	2004	63	338	8833	4.4	11	2.6	13.2	8.1	Feb	4	386	10867	5.4	12	2.8	14.3	8.7	Feb	4	1230	66296	33.1	22	5.3	27.3	16.7				
Feb	5	1941	2004	63	332	8509	4.3	11	2.5	13.1	8.0	Feb	5	402	11578	5.8	12	2.8	14.6	8.9	Feb	5	1150	59692	29.8	21	5.1	26.3	16.1				
Feb	6	1941	2004	63	332	8509	4.3	11	2.5	13.1	8.0	Feb	6	394	11221	5.6	12	2.8	14.4	8.8	Feb	6	1030	50261	25.1	20	4.8	24.7	15.2				
Feb	7	1941	2004	63	334	8671	4.3	11	2.5	13.2	8.1	Feb	7	370	10172	5.1	11	2.7	13.9	8.5	Feb	7	908	41285	20.6	19	4.5	23.0	14.1				
Feb	8	1941	2004	63	335	8711	4.4	11	2.6	13.2	8.1	Feb	8	375	10388	5.2	11	2.7	14.0	8.6	Feb	8	934	43145	21.6	19	4.5	23.4	14.3				
Feb	9	1941	2004	63	332	8590	4.3	11	2.5	13.1	8.0	Feb	9	367	10044	5.0	11	2.7	13.9	8.5	Feb	9	850	37245	18.6	18	4.3	22.2	13.6				
Feb	10	1941	2004	63	330	8509	4.3	11	2.5	13.1	8.0	Feb	10	379	10561	5.3	11	2.7	14.1	8.7	Feb	10	807	34347	17.2	17	4.2	21.6	13.2				
Feb	11	1941	2004	63	327	8389	4.2	10	2.5	13.0	8.0	Feb	11	372	10258	5.1	11	2.7	14.0	8.6	Feb	11	738	29875	14.9	17	4.0	20.5	12.6				
Feb	12	1941	2004	63	330	8509	4.3	11	2.5	13.1	8.0	Feb	12	389	10999	5.5	12	2.8	14.3	8.8	Feb	12	691	26966	13.5	16	3.8	19.8	12.1				
Feb	13	1941	2004	63	333	8630	4.3	11	2.5	13.1	8.0	Feb	13	400	11488	5.7	12	2.8	14.6	8.9	Feb	13	677	26113	13.1	16	3.8	19.5	12.0				
Feb	14	1941	2004	63	335	8711	4.4	11	2.6	13.2	8.1	Feb	14	393	11176	5.6	12	2.8	14.4	8.8	Feb	14	689	26838	13.4	16	3.8	19.7	12.1				
Feb	15	1941																															

Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or -24% ^+24% ^-24%	Discharge								Bias Factor ^+ or -24% ^+24% ^-24%	Max Peak Predicted Predicted Predicted SSC Bias Factor																										
										Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)						
March	1	1941	2004	63	368	10087	5.0	11	2.7	13.9	8.5	March	1	461	14336	7.2	13	3.1	15.8	9.7	March	1	1140	58884	29.4	21	5.1	26.2	16.0	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1
March	2	1941	2004	63	371	10215	5.1	11	2.7	14.0	8.6	March	2	452	13902	7.0	13	3.0	15.6	9.6	March	2	1180	62139	31.1	22	5.2	26.7	16.4	22	5.2	26.7	16.4	22	5.2	26.7	16.4	22	5.2	26.7	16.4	22	5.2	26.7	16.4
March	3	1941	2004	63	370	10172	5.1	11	2.7	13.9	8.5	March	3	432	12954	6.5	12	2.9	15.2	9.3	March	3	1220	65457	32.7	22	5.3	27.2	16.7	22	5.3	27.2	16.7	22	5.3	27.2	16.7	22	5.3	27.2	16.7	22	5.3	27.2	16.7
March	4	1941	2004	63	369	10129	5.1	11	2.7	13.9	8.5	March	4	451	13854	6.9	13	3.0	15.6	9.5	March	4	1200	63790	31.9	22	5.2	26.9	16.5	22	5.2	26.9	16.5	22	5.2	26.9	16.5	22	5.2	26.9	16.5	22	5.2	26.9	16.5
March	5	1941	2004	63	369	10129	5.1	11	2.7	13.9	8.5	March	5	451	13854	6.9	13	3.0	15.6	9.5	March	5	1150	59692	29.8	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1
March	6	1941	2004	63	371	10215	5.1	11	2.7	14.0	8.6	March	6	445	13568	6.8	12	3.0	15.5	9.5	March	6	1150	59692	29.8	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1	21	5.1	26.3	16.1				
March	7	1941	2004	63	375	10386	5.2	11	2.7	14.0	8.6	March	7	438	13236	6.6	12	3.0	15.3	9.4	March	7	1240	67139	33.6	22	5.3	27.4	16.8	22	5.3	27.4	16.8	22	5.3	27.4	16.8	22	5.3	27.4	16.8	22	5.3	27.4	16.8
March	8	1941	2004	63	392	11132	5.6	12	2.8	14.4	8.8	March	8	460	14288	7.1	13	3.0	15.7	9.6	March	8	1970	138256	69.1	29	6.9	35.6	21.8	29	6.9	35.6	21.8	29	6.9	35.6	21.8	29	6.9	35.6	21.8	29	6.9	35.6	21.8
March	9	1941	2004	63	394	11221	5.6	12	2.8	14.4	8.8	March	9	453	13950	7.0	13	3.0	15.6	9.6	March	9	1650	104848	52.4	26	6.2	32.2	19.7	26	6.2	32.2	19.7	26	6.2	32.2	19.7	26	6.2	32.2	19.7	26	6.2	32.2	19.7
March	10	1941	2004	63	408	11849	5.9	12	2.8	14.7	9.0	March	10	468	14677	7.3	13	3.1	15.9	9.7	March	10	1440	84783	42.4	24	5.8	29.8	18.3	24	5.8	29.8	18.3	24	5.8	29.8	18.3	24	5.8	29.8	18.3	24	5.8	29.8	18.3
March	11	1941	2004	63	423	12535	6.3	12	2.9	15.0	9.2	March	11	483	15418	7.7	13	3.1	16.2	9.9	March	11	1310	73146	36.6	23	5.5	28.3	17.3	23	5.5	28.3	17.3	23	5.5	28.3	17.3	23	5.5	28.3	17.3	23	5.5	28.3	17.3
March	12	1941	2004	63	426	12674	6.3	12	2.9	15.1	9.2	March	12	489	15718	7.9	13	3.2	16.3	10.0	March	12	1200	63790	31.9	22	5.2	26.9	16.5	22	5.2	26.9	16.5	22	5.2	26.9	16.5	22	5.2	26.9	16.5	22	5.2	26.9	16.5
March	13	1941	2004	63	426	12674	6.3	12	2.9	15.1	9.2	March	13	498	16172	8.1	13	3.2	16.5	10.1	March	13	1110	56484	28.2	21	5.0	25.8	15.8	21	5.0	25.8	15.8	21	5.0	25.8	15.8	21	5.0	25.8	15.8	21	5.0	25.8	15.8
March	14	1941	2004	63	425	12628	6.3	12	2.9	15.1	9.2	March	14	510	16784	8.4	13	3.2	16.7	10.2	March	14	1020	49502	24.8	20	4.8	24.6	15.1	20	4.8	24.6	15.1	20	4.8	24.6	15.1	20	4.8	24.6	15.1	20	4.8	24.6	15.1
March	15	1941	2004	63	424	12582	6.3	12	2.9	15.0	9.2	March	15	493	15919	8.0	13	3.2	16.4	10.0	March	15	935	43217	21.6	19	4.5	23.4	14.4	19	4.5	23.4	14.4	19	4.5	23.4	14.4	19	4.5	23.4	14.4	19	4.5	23.4	14.4
March	16	1941	2004	63	429	12814	6.4	12	2.9	15.1	9.3	March	16	502	16375	8.2	13	3.2	16.5	10.1	March	16	1000	47995	24.0	20	4.7	24.3	14.9	20	4.7	24.3	14.9	20	4.7	24.3	14.9	20	4.7	24.3	14.9	20	4.7	24.3	14.9
March	17	1941	2004	63	437	13189	6.6	12	3.0	15.3	9.4	March	17	524	17508	8.8	14	3.3	16.9	10.4	March	17	1110	56484	28.2	21	5.0	25.8	15.8	21	5.0	25.8	15.8	21	5.0	25.8	15.8	21	5.0	25.8	15.8	21	5.0	25.8	15.8
March	18	1941	2004	63	444	13520	6.8	12	3.0	15.4	9.5	March	18	511	16835	8.4	13	3.2	16.7	10.2	March	18	1240	67139	33.6	22	5.3	27.4	16.8	22	5.3	27.4	16.8	22	5.3	27.4	16.8	22	5.3	27.4	16.8	22	5.3	27.4	16.8
March	19	1941	2004	63	454	13998	7.0	13	3.0	15.6	9.6	March	19	560	19421	9.7	14	3.4	17.6	10.8	March	19	1180	62139	31.1	22	5.2	26.7	16.4	22	5.2	26.7	16.4	22	5.2	26.7	16.4	22	5.2	26.7	16.4	22	5.2	26.7	16.4
March	20	1941	2004	63	465	14531	7.3	13	3.1	15.8	9.7	March	20	605	21910	11.0	15	3.6	18.4	11.2	March	20	1040	51025	25.5	20	4.8	24.9	15.2	20	4.8	24.9	15.2	20	4.8	24.9	15.2	20	4.8	24.9	15.2	20	4.8	24.9	15.2
March	21	1941	2004	63	479	15129	7.6	13	3.1	16.1	9.9	March	21	633	23513	11.8	15	3.6	18.8	11.5	March	21	999	47921	24.0	20	4.7	24.3	14.9	20	4.7	24.3	14.9	20	4.7	24.3	14.9	20	4.7	24.3	14.9	20	4.7	24.3	14.9
March	22	1941	2004	63	490	15768	7.9	13	3.2	16.3	10.0	March	22	662	25215	12.6	16	3.7	19.3	11.8	March	22	1050	51792	25.9	20	4.8	25.0	15.3	20	4.8	25.0	15.3	20	4.8	25.0	15.3	20	4.8	25.0	15.3	20	4.8	25.0	15.3
March	23	1941	2004	63	524	17508	8.8	14	3.3	16.9	10.4	March	23	762	31405	15.7	17	4.0	20.9	12.8	March	23	1340	75776	37.9	23	5.5	28.7	17.6	23	5.5	28.7	17.6	23	5.5	28.7	17.6	23	5.5	28.7	17.6	23	5.5	28.7	17.6
March	24	1941	2004	63	533	17980	9.0	14	3.3	17.1	10.5	March	24	818	35080	17.5	18	4.2	21.7	13.3	March	24	1290	71411	35.7	23	5.4	28.1	17.2	23	5.4	28.1	17.2	23	5.4	28.1	17.2	23	5.4	28.1	17.2	23	5.4	28.1	17.2
March	25	1941	2004	63	533	17980	9.0	14	3.3	17.1	10.5	March	25	754	30892	15.4	17	4.0	20.8	12.7	March	25	1190	62963	31.5	22	5.2	26.8	16.4	22	5.2	26.8	16.4	22	5.2	26.8	16.4	22	5.2	26.8	16.4	22	5.2	26.8	16.4
March	26	1941	2004	63	538	18244	9.1	14	3.3	17.2	10.5	March	26	746	3082	15.2	18	4.0	20.6	12.6	March	26	1110	59692	29.8	21	5.2	27.0	16.2	21	5.2	27.0	16.2	21	5.2	27.0	16.2	21	5.2	27.0	16.2	21	5.2	27.0	16.2
March	27	1941	2004																																										

Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor		Discharge							Discharge							Max Peak Predicted Predicted Predicted SSC Bias Factor						
									^+24%	^+24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	^+24%	^+24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	^+24%	^+24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)
May	30	1941	2004	63	1324	74369	37.2	23	5.5	28.5	17.4	May	30	1762	11613	58.1	27	6.5	33.4	20.5	May	30	3160	289009	144.5	37	9.0	46.3	28.4		
May	1	1941	2004	63	1371	78530	39.3	23	5.6	29.0	17.8	May	1	1818	121975	61.0	27	6.6	34.0	20.8	May	1	3190	293302	146.7	38	9.0	46.6	28.6		
May	2	1941	2004	63	1436	84416	42.2	24	5.8	29.8	18.3	May	2	1968	138037	69.0	29	6.9	35.5	21.8	May	2	3070	276268	138.1	37	8.8	45.6	28.0		
May	3	1941	2004	63	1502	90547	45.3	25	5.9	30.5	18.7	May	3	2094	152073	76.0	30	7.1	36.8	22.6	May	3	3130	284739	142.4	37	8.9	46.1	28.3		
May	4	1941	2004	63	1569	95966	48.0	25	6.0	31.2	19.1	May	4	2208	165187	82.6	31	7.3	37.9	23.2	May	4	2370	319522	159.8	39	9.3	48.0	29.4		
May	5	1941	2004	63	1597	99641	49.8	25	6.1	31.6	19.4	May	5	2130	156172	78.1	30	7.2	37.2	22.8	May	5	3350	316577	158.3	39	9.3	47.9	29.4		
May	6	1941	2004	63	1653	105146	52.6	26	6.2	32.2	19.8	May	6	2352	162302	91.2	32	7.6	39.3	24.1	May	6	3420	326960	163.5	39	9.4	48.4	29.7		
May	7	1941	2004	63	1732	113092	56.5	27	6.4	33.1	20.3	May	7	2420	190592	95.3	32	7.7	39.9	24.5	May	7	3660	363459	181.7	41	9.7	50.3	30.8		
May	8	1941	2004	63	1797	119783	59.9	27	6.5	33.8	20.7	May	8	2542	205796	102.9	33	7.9	41.0	25.1	May	8	4190	448852	224.4	44	10.5	54.3	33.3		
May	9	1941	2004	63	1841	124391	62.2	28	6.6	34.2	21.0	May	9	2703	226492	113.2	34	8.2	42.5	26.0	May	9	4350	475881	237.9	45	10.7	55.4	34.0		
May	10	1941	2004	63	1872	127675	63.8	28	6.7	34.6	21.2	May	10	2708	227146	113.6	34	8.2	42.5	26.1	May	10	3560	348083	174.0	40	9.6	49.5	30.4		
May	11	1941	2004	63	1894	130024	65.0	28	6.7	34.8	21.3	May	11	2778	236374	118.2	35	8.3	43.1	26.4	May	11	3810	386968	193.5	42	10.0	51.5	31.5		
May	12	1941	2004	63	1913	132065	66.0	28	6.8	35.0	21.4	May	12	2752	232931	116.5	35	8.3	42.9	26.3	May	12	3980	414245	207.1	43	10.2	52.7	32.3		
May	13	1941	2004	63	1965	137709	68.9	29	6.9	35.5	21.8	May	13	2708	227146	113.6	34	8.2	42.5	26.1	May	13	4460	494791	247.4	45	10.9	56.2	34.5		
May	14	1941	2004	63	2033	145217	72.6	29	7.0	36.2	22.2	May	14	2652	219859	109.9	34	8.1	42.0	25.7	May	14	4780	551289	275.6	47	11.3	58.4	35.8		
May	15	1941	2004	63	2142	157547	78.8	30	7.2	37.3	22.8	May	15	2884	250597	125.3	36	8.5	44.0	27.0	May	15	5850	755562	377.8	53	12.7	65.5	40.1		
May	16	1941	2004	63	2209	165304	82.7	31	7.3	37.9	23.2	May	16	3132	285023	142.5	37	8.9	46.1	28.3	May	16	6100	806545	403.3	54	13.0	67.0	41.1		
May	17	1941	2004	63	2272	172719	86.4	31	7.5	38.5	23.6	May	17	3254	302536	151.3	38	9.1	47.1	28.9	May	17	6390	867169	433.6	55	13.3	68.8	42.1		
May	18	1941	2004	63	2335	180250	90.1	32	7.6	39.1	24.0	May	18	3164	289580	144.8	37	9.0	46.4	28.4	May	18	6450	879907	440.0	56	13.4	69.1	42.4		
May	19	1941	2004	63	2390	186918	93.5	32	7.7	39.6	24.3	May	19	3436	293530	164.7	39	9.4	48.6	29.8	May	19	5760	737502	368.8	52	12.6	64.9	39.8		
May	20	1941	2004	63	2432	192069	96.0	32	7.7	40.0	24.5	May	20	3236	299528	150.0	38	9.1	47.0	28.8	May	20	5420	670706	335.4	51	12.1	62.7	38.4		
May	21	1941	2004	63	2485	198640	99.3	33	7.8	40.5	24.8	May	21	3202	295025	147.5	38	9.0	46.7	28.6	May	21	5610	707753	353.9	52	12.4	63.9	39.2		
May	22	1941	2004	63	2518	202772	101.4	33	7.9	40.8	25.0	May	22	3220	297617	148.8	38	9.1	46.8	28.7	May	22	5720	729526	364.8	52	12.5	64.6	39.6		
May	23	1941	2004	63	2585	211253	105.6	33	8.0	41.4	25.4	May	23	3280	306316	153.2	38	9.2	47.3	29.0	May	23	6100	806545	403.3	54	13.0	67.0	41.1		
May	24	1941	2004	63	2661	221024	110.5	34	8.1	42.1	25.8	May	24	3494	338066	169.0	40	9.5	49.0	30.1	May	24	6840	964321	482.2	58	13.8	71.4	43.8		
May	25	1941	2004	63	2710	227408	113.7	34	8.2	42.5	26.1	May	25	3570	349610	174.8	40	9.6	49.6	30.4	May	25	6590	909890	454.9	56	13.5	70.0	42.9		
May	26	1941	2004	63	2802	239568	119.8	35	8.4	43.3	26.6	May	26	3820	388554	194.3	42	10.0	51.5	31.6	May	26	6300	848186	424.1	55	13.2	68.2	41.8		
May	27	1941	2004	63	2875	249378	124.7	35	8.5	44.0	26.9	May	27	4102	434229	217.1	43	10.4	53.6	32.9	May	27	6450	879907	440.0	56	13.4	69.1	42.4		
May	28	1941	2004	63	2919	255359	127.7	36	8.6	44.3	27.2	May	28	4062	427639	213.8	43	10.3	53.4	32.7	May	28	6000	786008	393.0	54	12.8	66.4	40.7		
May	29	1941	2004	63	2962	261253	130.6	36	8.7	44.7	27.4	May	29	4028	422067	211.0	43	10.3	53.1	32.5	May	29	6310	850288	425.1	55	13.2	68.3	41.9		
May	30	1941	2004	63	2985	264425	132.2	36	8.7	44.9	27.5	May	30	3973	413109	206.6	42	10.2	52.7	32.3	May	30	6570	905585	452.8	56	13.5	69.8	42.8		
May	31	1941	2004	63	2984	264287	132.1	36	8.7	44.9	27.5	May	31	4096	433238	216.6	43	10.4	53.6	32.9	May	31	6500	890574	445.3	56	13.4	69.4	42.6		
Jun	1	1941	2004	64	2953	260015	130.0	36	8.6	44.6	27.3	Jun	1	3900	401326	200.7	42	10.1	52.1	32.0	Jun	1	6900	977553	488.8	58	13.9	71.8	44.0		
Jun	2	1941	2004	64	2948	259329	129.7	36	8.6	44.6	27.3	Jun	2	3990	415870	207.9	43	10.2	52.8	32.4	Jun	2	6920	981978	491.0	58	13.9	71.9	44.1		
Jun	3	1941	2004	64	2964	261528	130.8	36	8.7	44.7	27.4	Jun	3	4020	420760	210.4	43	10.3	53.0	32.5	Jun	3	6520	848454	447.4	56	13.5	69.6	42.6		
Jun	4	1941	2004	64	2980	263735	131.9	36	8.7	44.8	27.5	Jun	4	4230	455566	227.8	44	10.6	54.6	33.4	Jun	4	6120	810675	405.3	54	13.0	67.1	41.1		
Jun	5	1941	2004	64	3025	269975	135.0	36	8.8	45.2	27.7	Jun	5	4400	484444	242.2	45	10.8	55.8	34.2	Jun	5	6000	786008	393.0	54	12.8	66.4	40.7		
Jun	6	1941	2004	64	3019	269140	134.6	36	8.7	45.2	27.7	Jun	6	4310	469071	234.5	44	10.7	55.2	33.8	Jun	6	5950	775812	387.9	53	12.8	66.1	40.5		
Jun	7	1941	2004	64	3015	268584	134.3	36	8.7	45.1	27.7	Jun	7	4130	438862	219.4	43	10.4	53.8	33.0	Jun	7	6240	835615	417.8	55	13.1	67.9	41.6		
Jun	8	1941																													

Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or -24% ^+24% ^-24%	Discharge						Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or -24% ^+24% ^-24%	Discharge						Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or -24% ^+24% ^-24%
										Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or -24% ^+24% ^-24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or -24% ^+24% ^-24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)
Jul	1	1941	2004	64	1954	136508	68.3	29	6.9	35.4	21.7	Jul	1	3100	208492	140.2	37	8.9	45.9	28.1	Jul	1	4700	536959	268.5	47	11.2	57.9	35.5
Jul	2	1941	2004	64	1905	131204	65.6	28	6.8	34.9	21.4	Jul	2	2960	260978	130.5	36	8.6	44.7	27.4	Jul	2	4550	510459	255.2	46	11.0	56.9	34.8
Jul	3	1941	2004	64	1839	124180	62.1	28	6.6	34.2	21.0	Jul	3	2810	240636	120.3	35	8.4	43.4	26.6	Jul	3	4400	484444	242.2	45	10.8	55.8	34.2
Jul	4	1941	2004	64	1785	118538	59.3	27	6.5	33.7	20.6	Jul	4	2760	233899	117.0	35	8.3	43.0	26.3	Jul	4	4300	467374	233.7	44	10.7	55.1	33.8
Jul	5	1941	2004	64	1719	111770	56.9	27	6.4	32.9	20.2	Jul	5	2600	213169	106.6	34	9.0	41.5	25.5	Jul	5	4520	505217	252.6	46	11.0	56.6	34.7
Jul	6	1941	2004	64	1665	106340	53.2	26	6.3	32.4	19.8	Jul	6	2570	209344	104.7	33	8.0	41.3	25.3	Jul	6	4600	519239	259.6	46	11.1	57.2	35.1
Jul	7	1941	2004	64	1625	102380	51.2	26	6.2	31.9	19.6	Jul	7	2460	195531	97.8	32	7.8	40.3	24.7	Jul	7	4450	493061	246.5	45	10.9	56.1	34.4
Jul	8	1941	2004	64	1571	97121	48.6	25	6.1	31.3	19.2	Jul	8	2540	205543	102.8	33	7.9	41.0	25.1	Jul	8	4120	437205	218.6	43	10.4	53.8	33.0
Jul	9	1941	2004	64	1506	90924	45.5	25	5.9	30.6	18.8	Jul	9	2320	178446	89.2	31	7.5	39.0	23.9	Jul	9	3920	404542	202.3	42	10.1	52.3	32.1
Jul	10	1941	2004	64	1451	85796	42.9	24	5.8	30.0	18.4	Jul	10	2270	172482	86.2	31	7.5	38.5	23.6	Jul	10	3670	365010	182.5	41	9.8	50.4	30.9
Jul	11	1941	2004	64	1394	80595	40.3	24	5.7	29.3	18.0	Jul	11	2230	167763	83.9	31	7.4	38.1	23.4	Jul	11	3380	321012	160.5	39	9.3	48.1	29.5
Jul	12	1941	2004	64	1329	74808	37.4	23	5.5	28.5	17.5	Jul	12	1990	140453	70.2	29	6.9	35.8	21.9	Jul	12	3360	318053	159.0	39	9.3	48.0	29.4
Jul	13	1941	2004	64	1271	69776	34.9	22	5.4	27.8	17.1	Jul	13	1800	120096	60.0	27	6.5	33.8	20.7	Jul	13	3310	310699	155.3	38	9.2	47.6	29.2
Jul	14	1941	2004	64	1225	65876	32.9	22	5.3	27.3	16.7	Jul	14	1770	116987	58.5	27	6.5	33.5	20.5	Jul	14	3160	289009	144.5	37	9.0	46.3	28.4
Jul	15	1941	2004	64	1176	61811	30.9	21	5.2	26.6	16.3	Jul	15	1739	113806	56.9	27	6.4	33.2	20.3	Jul	15	2950	259603	129.8	36	8.6	44.6	27.3
Jul	16	1941	2004	64	1121	57359	28.7	21	5.0	25.9	15.9	Jul	16	1680	107838	53.9	26	6.3	32.5	19.9	Jul	16	2570	209344	104.7	33	8.0	41.3	25.3
Jul	17	1941	2004	64	1073	53573	26.8	20	4.9	25.3	15.5	Jul	17	1570	97025	48.5	25	6.1	31.3	19.2	Jul	17	2320	178446	89.2	31	7.5	39.0	23.9
Jul	18	1941	2004	64	1033	50490	25.2	20	4.8	24.8	15.2	Jul	18	1490	89421	44.7	25	5.9	30.4	18.6	Jul	18	2180	161930	81.0	30	7.3	37.6	23.1
Jul	19	1941	2004	64	995	47622	23.8	20	4.7	24.3	14.9	Jul	19	1419	82862	41.4	24	5.7	29.6	18.1	Jul	19	2110	153890	76.9	30	7.2	37.0	22.7
Jul	20	1941	2004	64	962	45180	22.6	19	4.6	23.8	14.5	Jul	20	1360	7549	38.8	23	5.6	28.9	17.7	Jul	20	2120	155030	77.5	30	7.2	37.1	22.7
Jul	21	1941	2004	64	927	42641	21.3	19	4.5	23.3	14.3	Jul	21	1300	72277	36.1	23	5.5	28.2	17.3	Jul	21	2050	147116	73.6	29	7.0	36.4	22.3
Jul	22	1941	2004	64	898	40578	20.3	18	4.4	22.9	14.0	Jul	22	1240	67139	33.6	22	5.3	27.4	16.8	Jul	22	2200	164254	82.1	31	7.3	37.8	23.2
Jul	23	1941	2004	64	871	38690	19.3	18	4.4	22.5	13.8	Jul	23	1200	63790	31.9	22	5.2	26.9	16.5	Jul	23	2090	151620	75.8	30	7.1	36.8	22.5
Jul	24	1941	2004	64	841	36631	18.3	18	4.3	22.1	13.5	Jul	24	1140	58884	29.4	21	5.1	26.2	16.0	Jul	24	1930	133901	67.0	28	6.8	35.2	21.5
Jul	25	1941	2004	64	811	34613	17.3	17	4.2	21.6	13.3	Jul	25	1100	55692	27.8	21	5.0	25.7	15.7	Jul	25	1840	124286	62.1	28	6.6	34.2	21.0
Jul	26	1941	2004	64	789	33159	16.6	17	4.1	21.3	13.1	Jul	26	1070	53340	26.7	20	4.9	25.3	15.5	Jul	26	1770	116987	58.5	27	6.5	33.5	20.5
Jul	27	1941	2004	64	769	31857	15.9	17	4.1	21.0	12.9	Jul	27	1040	51025	25.5	20	4.8	24.9	15.2	Jul	27	1750	114931	57.5	27	6.4	33.3	20.4
Jul	28	1941	2004	64	749	30573	15.3	17	4.0	20.7	12.7	Jul	28	1010	48746	24.4	20	4.7	24.5	15.0	Jul	28	1640	103859	51.9	26	6.2	32.1	19.7
Jul	29	1941	2004	64	733	29560	14.8	16	4.0	20.4	12.5	Jul	29	1000	47995	24.0	20	4.7	24.3	14.9	Jul	29	1510	91301	45.7	25	5.9	30.6	18.8
Jul	30	1941	2004	64	717	28560	14.3	16	3.9	20.2	12.4	Jul	30	1000	47995	24.0	20	4.7	24.3	14.9	Jul	30	1390	80234	40.1	24	5.7	29.3	17.9
Jul	31	1941	2004	64	698	27387	13.7	16	3.8	19.9	12.2	Jul	31	964	45327	22.7	19	4.6	23.8	14.6	Jul	31	1310	73146	36.6	23	5.5	28.3	17.3
Aug	1	1941	2004	64	677	26113	13.1	16	3.8	19.5	12.0	Aug	1	938	43434	21.7	19	4.5	23.5	14.4	Aug	1	1290	71411	35.7	23	5.4	28.1	17.2
Aug	2	1941	2004	64	657	24919	12.5	16	3.7	19.2	11.8	Aug	2	893	40226	20.1	18	4.4	22.8	14.0	Aug	2	1320	74019	37.0	23	5.5	28.4	17.4
Aug	3	1941	2004	64	643	24095	12.0	15	3.7	19.0	11.6	Aug	3	846	36972	18.5	18	4.3	22.1	13.6	Aug	3	1280	70549	35.3	23	5.4	27.9	17.1
Aug	4	1941	2004	64	627	23166	11.6	15	3.6	18.7	11.5	Aug	4	835	36224	18.1	18	4.3	22.0	13.5	Aug	4	1180	62139	31.1	22	5.2	26.7	16.4
Aug	5	1941	2004	64	611	22250	11.1	15	3.6	18.5	11.3	Aug	5	817	35013	17.5	18	4.2	21.7	13.3	Aug	5	1100	55692	27.8	21	5.0	25.7	15.7
Aug	6	1941	2004	64	597	21460	10.7	15	3.5	18.2	11.2	Aug	6	796	33619	16.8	17	4.1	21.4	13.1	Aug	6	1060	52564	26.3	20	4.9	25.1	15.4
Aug	7	1941	2004	64	582	20625	10.3	14	3.5	18.0	10.0	Aug	7	761	31341	15.7	17	4.0	20.9	12.8	Aug	7	1090	54904	27.5	21	4.9	25.5	15.6
Aug	8	1941	2004	64	569	19910	10.0	14	3.4	17.7	9.9	Aug	8	743	30192	15.1	17	4.0	20.6	12.6	Aug	8	1040	510					

Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor			Discharge						SSC						Max Peak						Bias Factor		
									^+24%	^+24%	^-24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	^+24%	^+24%	^-24%	Month	Day	Discharge cfs	SSC Load (lbs/day)	SSC Load (tons/day)	Concentration (mg/l)	^+24%	^+24%	^-24%			
Sep	1	1941	2004	64	417	12259	6.1	12	2.9	14.9	9.1	Sep	1	518	17197	8.6	14	3.3	16.8	10.3	Sep	1	635	23629	11.8	15	3.6	18.9	11.6			
Sep	2	1941	2004	64	412	12031	6.0	12	2.9	14.8	9.1	Sep	2	512	16887	8.4	13	3.2	16.7	10.2	Sep	2	635	23629	11.8	15	3.6	18.9	11.6			
Sep	3	1941	2004	64	406	11758	5.9	12	2.8	14.7	9.0	Sep	3	490	15768	7.9	13	3.2	16.3	10.0	Sep	3	627	23166	11.6	15	3.6	18.7	11.5			
Sep	4	1941	2004	64	400	11488	5.7	12	2.8	14.6	8.9	Sep	4	494	15970	8.0	13	3.2	16.4	10.0	Sep	4	603	21798	10.9	15	3.5	18.3	11.2			
Sep	5	1941	2004	64	396	11310	5.7	12	2.8	14.5	8.8	Sep	5	486	15568	7.8	13	3.1	16.2	9.9	Sep	5	596	21404	10.7	15	3.6	18.2	11.2			
Sep	6	1941	2004	64	397	11354	5.7	12	2.8	14.5	8.9	Sep	6	475	15021	7.5	13	3.1	16.0	9.8	Sep	6	648	24388	12.2	15	3.7	19.1	11.7			
Sep	7	1941	2004	64	398	11399	5.7	12	2.8	14.5	8.9	Sep	7	471	14825	7.4	13	3.1	15.9	9.8	Sep	7	652	24624	12.3	15	3.7	19.1	11.7			
Sep	8	1941	2004	64	401	11533	5.8	12	2.8	14.6	8.9	Sep	8	492	15869	7.9	13	3.2	16.3	10.0	Sep	8	835	36224	18.1	18	4.3	22.0	13.5			
Sep	9	1941	2004	64	401	11533	5.8	12	2.8	14.6	8.9	Sep	9	497	16121	8.1	13	3.2	16.4	10.1	Sep	9	805	34214	17.1	17	4.2	21.5	13.2			
Sep	10	1941	2004	64	393	11176	5.6	12	2.8	14.4	8.8	Sep	10	483	15418	7.7	13	3.1	16.2	9.9	Sep	10	760	31277	15.6	17	4.0	20.9	12.8			
Sep	11	1941	2004	64	393	11176	5.6	12	2.8	14.4	8.8	Sep	11	480	15269	7.6	13	3.1	16.1	9.9	Sep	11	680	26293	13.1	16	3.8	19.6	12.0			
Sep	12	1941	2004	64	393	11176	5.6	12	2.8	14.4	8.8	Sep	12	480	15269	7.6	13	3.1	16.1	9.9	Sep	12	700	27510	13.8	16	3.9	19.9	12.2			
Sep	13	1941	2004	64	387	10911	5.5	12	2.8	14.3	8.8	Sep	13	475	15021	7.5	13	3.1	16.0	9.8	Sep	13	620	22764	11.4	15	3.6	18.6	11.4			
Sep	14	1941	2004	64	381	10648	5.3	11	2.7	14.2	8.7	Sep	14	458	14191	7.1	13	3.0	15.7	9.6	Sep	14	556	19205	9.6	14	3.4	17.5	10.7			
Sep	15	1941	2004	64	382	10692	5.3	11	2.7	14.2	8.7	Sep	15	452	13902	7.0	13	3.0	15.6	9.6	Sep	15	602	21741	10.9	15	3.5	18.3	11.2			
Sep	16	1941	2004	64	382	10692	5.3	11	2.7	14.2	8.7	Sep	16	462	14385	7.2	13	3.1	15.8	9.7	Sep	16	623	22936	11.5	15	3.6	18.7	11.4			
Sep	17	1941	2004	64	383	10736	5.4	11	2.7	14.2	8.7	Sep	17	458	14191	7.1	13	3.0	15.7	9.6	Sep	17	567	19801	9.9	14	3.4	17.7	10.8			
Sep	18	1941	2004	64	381	10648	5.3	11	2.7	14.2	8.7	Sep	18	456	14094	7.0	13	3.0	15.7	9.6	Sep	18	570	19965	10.0	14	3.4	17.7	10.9			
Sep	19	1941	2004	64	381	10648	5.3	11	2.7	14.2	8.7	Sep	19	464	14482	7.2	13	3.1	15.8	9.7	Sep	19	541	18403	9.2	14	3.3	17.2	10.6			
Sep	20	1941	2004	64	382	10692	5.3	11	2.7	14.2	8.7	Sep	20	461	14336	7.2	13	3.1	15.8	9.7	Sep	20	579	20459	10.2	14	3.5	17.9	11.0			
Sep	21	1941	2004	64	379	10561	5.3	11	2.7	14.1	8.7	Sep	21	457	14143	7.1	13	3.0	15.7	9.6	Sep	21	593	21236	10.6	15	3.5	18.1	11.1			
Sep	22	1941	2004	64	371	10215	5.1	11	2.7	14.0	8.6	Sep	22	444	13520	6.8	12	3.0	15.4	9.5	Sep	22	518	17197	8.6	14	3.3	16.8	10.3			
Sep	23	1941	2004	64	366	10001	5.0	11	2.7	13.8	8.5	Sep	23	437	13189	6.6	12	3.0	15.3	9.4	Sep	23	504	16477	8.2	13	3.2	16.6	10.2			
Sep	24	1941	2004	64	364	9916	5.0	11	2.7	13.8	8.5	Sep	24	436	13142	6.6	12	3.0	15.3	9.4	Sep	24	497	16121	8.1	13	3.2	16.4	10.1			
Sep	25	1941	2004	64	365	9959	5.0	11	2.7	13.8	8.5	Sep	25	431	12907	6.5	12	2.9	15.2	9.3	Sep	25	490	15768	7.9	13	3.2	16.3	10.0			
Sep	26	1941	2004	64	367	10044	5.0	11	2.7	13.9	8.5	Sep	26	438	13236	6.6	12	3.0	15.3	9.4	Sep	26	546	18669	9.3	14	3.4	17.3	10.6			
Sep	27	1941	2004	64	364	9916	5.0	11	2.7	13.8	8.5	Sep	27	430	12861	6.4	12	2.9	15.2	9.3	Sep	27	570	19965	10.0	14	3.4	17.7	10.9			
Sep	28	1941	2004	64	359	9704	4.9	11	2.7	13.7	8.4	Sep	28	431	12907	6.5	12	2.9	15.2	9.3	Sep	28	526	17613	8.8	14	3.3	17.0	10.4			
Sep	29	1941	2004	64	358	9662	4.8	11	2.6	13.7	8.4	Sep	29	426	12674	6.3	12	2.9	15.1	9.2	Sep	29	514	16990	8.5	14	3.2	16.8	10.3			
Sep	30	1941	2004	64	358	9662	4.8	11	2.6	13.7	8.4	Sep	30	426	12674	6.3	12	2.9	15.1	9.2	Sep	30	533	17980	9.0	14	3.3	17.1	10.5			
Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor			Discharge						SSC						Max Peak						Bias Factor		
									^+24%	^+24%	^-24%	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	^+24%	^+24%	^-24%	Month	Day	Discharge cfs	SSC Load (lbs/day)	SSC Load (tons/day)	Concentration (mg/l)	^+24%	^+24%	^-24%			
Oct	1	1941	2004	63	355	9536	4.8	11	2.6	13.6	8.3	Oct	1	420	12397	6.2	12	2.9	15.0	9.2	Oct	1	533	17980	9.0	14	3.3	17.1	10.5			
Oct	2	1941	2004	63	360	9747	4.9	11	2.7	13.7	8.4	Oct	2	415	12168	6.1	12	2.9	14.9	9.1	Oct	2	689	26838	13.4	16	3.8	19.7	12.1			
Oct	3	1941	2004	63	359	9704	4.9	11	2.7	13.7	8.4	Oct	3	420	12397	6.2	12	2.9	15.0	9.2	Oct	3	636	23687	11.8	15	3.7	18.9	11.6			
Oct	4	1941	2004	63	355	9536	4.8	11	2.6	13.6	8.3	Oct	4	420	12397	6.2	12	2.9	15.0	9.2	Oct	4	560	19421	9.7	14	3.4	17.6	10.8			
Oct	5	1941	2004	63	355	9536	4.8	11	2.6	13.6	8.3	Oct	5	424	12582	6.3	12	2.9	15.0	9.2	Oct	5	520	17300	8.7	14	3.3	16.9	10.3			
Oct	6	1941	2004	63	352	9411	4.7	11	2.6	13.5	8.3	Oct	6	415	12168	6.1	12	2.9	14.9	9.1	Oct	6	501	16324	8.2	13	3.2	16.5	10.1			
Oct	7	1941	2004	63	354	9494	4.7	11	2.6	13.6	8.3	Oct	7	410	11940	6.0	12	2.9	14.8	9.0	Oct	7	499	16222	8.1	13	3.2	16.5	10.1			
Oct	8	1941	2004	63	352	9411	4.7	11	2.6	13.5	8.3	Oct	8	407	11804	5.9	12	2.8	14.7	9.0	Oct	8	482	15368	7.7	13	3.1	16.2	9.9			
Oct	9	1941	2004	63	352	9411	4.7	11	2.6	13.5	8.3	Oct	9	397	11354	5.7	12	2.8</														

Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or - 24% ^+24% ^-24%	Discharge												Bias Factor ^+ or - 24% ^+24% ^-24%	Max Peak																																																																																																																																																																																																																																																																																																																																																																					
										Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)		Month	Day	80th Percentile (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)																																																																																																																																																																																																																																																																																																																																																																
Nov	1	1941	2004	63	361	9789	4.9	11 2.7 13.7 8.4	Nov	1	413	12076	6.0	12 2.9 14.8 9.1	Nov	1	618	22649	11.3	15 3.6 18.6 11.4	Nov	1	618	22649	11.3	15 3.6 18.6 11.4	Nov	2	618	22649	11.3	15 3.6 18.6 11.4	Nov	3	589	21013	10.5	15 3.5 18.1 11.1	Nov	4	628	23224	11.6	15 3.6 18.7 11.5	Nov	5	731	20426	14.7	16 3.9 20.4 12.5	Nov	6	570	19985	10.0	14 3.4 17.7 10.9	Nov	7	957	44814	22.4	19 4.6 23.7 14.5	Nov	8	1040	51025	25.5	20 4.8 24.9 15.2	Nov	9	684	26535	13.3	16 3.8 19.7 12.0	Nov	10	806	34280	17.1	17 4.2 21.6 13.2	Nov	11	962	45180	22.6	19 4.6 23.8 14.6	Nov	12	1620	101888	50.9	26 6.2 31.9 19.5	Nov	13	424	12582	6.3	12 2.9 15.0 9.2	Nov	13	1450	85704	42.9	24 5.8 30.0 18.4	Nov	14	414	12122	6.1	12 2.9 14.8 9.1	Nov	14	1050	51792	25.9	20 4.8 25.0 15.3	Nov	15	409	11894	5.9	12 2.9 14.7 9.0	Nov	15	1470	87555	43.8	24 5.8 30.2 18.5	Nov	16	414	12122	6.1	12 2.9 14.8 9.1	Nov	16	1600	47995	24.0	20 4.7 24.3 14.9	Nov	17	407	11804	5.9	12 2.8 14.7 9.0	Nov	17	845	36903	18.5	18 4.3 22.1 13.6	Nov	18	408	11849	5.9	12 2.8 14.7 9.0	Nov	18	736	29749	14.9	17 4.0 20.5 12.6	Nov	19	426	12674	6.3	12 2.9 15.1 9.2	Nov	19	1520	82246	46.1	25 6.0 30.8 18.8	Nov	20	437	13189	6.6	12 3.0 15.3 9.4	Nov	20	1420	82953	41.5	24 5.7 29.6 18.1	Nov	21	434	13048	6.5	12 2.9 15.2 9.3	Nov	21	957	44814	22.4	19 4.6 23.7 14.5	Nov	22	441	13378	6.7	12 3.0 15.4 9.4	Nov	22	824	35482	17.7	18 4.2 21.8 13.4	Nov	23	425	12628	6.3	12 2.9 15.1 9.2	Nov	23	740	30002	15.0	17 4.0 20.5 12.6	Nov	24	452	13902	7.0	13 3.0 15.6 9.6	Nov	24	1090	54904	27.5	21 4.9 25.5 15.6	Nov	25	445	13568	6.8	12 3.0 15.5 9.5	Nov	25	1830	123233	61.6	28 6.6 34.1 20.9	Nov	26	422	12489	6.2	12 2.9 15.0 9.2	Nov	26	978	46358	23.2	19 4.6 24.0 14.7	Nov	27	441	13378	6.7	12 3.0 15.4 9.4	Nov	27	777	32375	16.2	17 4.1 21.1 12.9	Nov	28	425	12628	6.3	12 2.9 15.1 9.2	Nov	28	739	29939	15.0	17 4.0 20.5 12.6	Nov	29	418	12305	6.2	12 2.9 14.9 9.1	Nov	29	597	21460	10.7	15 3.5 18.2 11.2	Nov	30	430	12861	6.4	12 2.9 15.2 9.3	Nov	30	1000	47995	24.0	20 4.7 24.3 14.9																																																																								
Month	Day	Data From	to Year	Numbers of Years	Mean Discharge for Date	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)	Bias Factor ^+ or - 24% ^+24% ^-24%	Discharge												Bias Factor ^+ or - 24% ^+24% ^-24%	Max Peak												Bias Factor ^+ or - 24% ^+24% ^-24%																																																																																																																																																																																																																																																																																																																																																									
Dec	1	1941	2004	63	362	9831	4.9	11 2.7 13.8 8.4	Dec	1	411	11985	6.0	12 2.9 14.8 9.1	Dec	1	1420	82953	41.5	24 5.7 29.6 18.1	Dec	2	418	12305	6.2	12 2.9 14.9 9.1	Dec	2	1290	71411	35.7	23 5.4 28.1 17.2	Dec	3	453	13950	7.0	13 3.0 15.6 9.6	Dec	3	2480	198017	99.0	33 7.8 40.5 24.8	Dec	4	420	12397	6.2	12 2.9 15.0 9.2	Dec	4	1370	78440	39.2	23 5.6 29.0 17.8	Dec	5	401	11533	5.8	12 2.8 14.6 8.9	Dec	5	922	42283	21.1	19 4.5 23.2 14.2	Dec	6	411	11985	6.0	12 2.9 14.8 9.1	Dec	6	882	39456	19.7	18 4.4 22.7 13.9	Dec	7	407	11804	5.9	12 2.8 14.7 9.0	Dec	7	808	34413	17.2	17 4.2 21.6 13.2	Dec	8	394	11221	5.6	12 2.8 14.4 8.8	Dec	8	663	25275	12.6	16 3.7 19.3 11.8	Dec	9	370	10172	5.1	11 2.7 13.9 8.5	Dec	9	651	24565	12.3	15 3.7 19.1 11.7	Dec	10	386	10867	5.4	12 2.8 14.3 8.7	Dec	10	675	25992	13.0	16 3.8 19.5 12.0	Dec	11	416	12213	6.1	12 2.9 14.9 9.1	Dec	11	627	23166	11.6	15 3.6 18.7 11.5	Dec	12	400	11488	5.7	12 2.8 14.6 8.9	Dec	12	989	47174	23.6	19 4.7 24.2 14.8	Dec	13	396	11310	5.7	12 2.8 14.5 8.9	Dec	13	1390	80234	40.1	24 5.7 29.3 17.9	Dec	14	393	11176	5.6	12 2.8 14.4 8.8	Dec	14	1050	51792	25.9	20 4.8 25.0 15.3	Dec	15	413	12076	6.0	12 2.9 14.8 9.1	Dec	15	1290	71411	35.7	23 5.4 28.1 17.2	Dec	16	398	11399	5.7	12 2.8 14.5 8.9	Dec	16	860	37931	19.0	18 4.3 22.4 13.7	Dec	17	381	10648	5.3	11 2.7 14.2 8.7	Dec	17	745	30319	15.2	17 4.0 20.6 12.6	Dec	18	381	10648	5.3	11 2.7 14.2 8.7	Dec	18	690	26899	13.4	16 3.8 19.8 12.1	Dec	19	396	11310	5.7	12 2.8 14.5 8.9	Dec	19	650	24506	12.3	15 3.7 19.1 11.7	Dec	20	382	10692	5.3	11 2.7 14.2 8.7	Dec	20	1060	52564	26.3	20 4.9 25.1 15.4	Dec	21	406	11758	5.9	12 2.8 14.7 9.0	Dec	21	733	29560	14.8	16 4.0 20.4 12.5	Dec	22	439	13283	6.6	12 3.0 15.3 9.4	Dec	22	2120	155030	77.5	30 7.2 37.1 22.7	Dec	23	422	12489	6.2	12 2.9 15.0 9.2	Dec	23	3880	39819	199.1	42 10.1 52.0 31.9	Dec	24	394	11221	5.6	12 2.8 14.4 8.8	Dec	24	2460	195531	97.8	32 7.8 40.3 24.7	Dec	25	391	11087	5.5	12 2.8 14.4 8.8	Dec	25	1860	126400	63.2	28 6.7 34.4 21.1	Dec	26	378	10518	5.3	11 2.7 14.1 8.6	Dec	26	1500	90359	45.2	25 5.9 30.5 18.7	Dec	27	391	11087	5.5	12 2.8 14.4 8.8	Dec	27	1250	67986	34.0	22 5.3 27.6 16.9	Dec	28	423	12535	6.3	12 2.9 15.0 9.2	Dec	28	1070	53340	26.7	20 4.9 25.3 15.5	Dec	29	418	12305	6.2	12 2.9 14.9 9.1	Dec	29	1120	57280	28.6	21 5.0 25.9 15.9	Dec	30	406	11758	5.9	12 2.8 14.7 9.0	Dec	30	879	39246	19.6	18 4.4 22.6 13.9	Dec	31	404	11668	5.8	12 2.8 14.6 9.0	Dec	31	1300	72277	36.1	23 5.5 28.2 17.3

DATE	Avg Discharge for Date (cfs)	USGS Measured Discharge (cfs)	USGS Measured SSC Concentration (mg/l)	Calculated SSC Load (lbs/day)	Calculated SSC Load (tons/day)	DATE	Natural Log for Date	Natural Log Avg Discharge for Date	Natural Log USGS Measured Discharge	Natural Log USGS Measured SSC Concentration	Natural Log Calculated SSC Load	Date	Avg Discharge for Date (cfs)	Predicted SSC Load (lbs/day)	Predicted SSC Load (tons/day)	Predicted SSC Concentration (mg/l)
11/8/1991	352	283	4	2.77E+03	1.4	11/8/1991	5.8636	5.6454	1.3863	7.9263	11/8/1991	352	9.41E+03	4.7	11	
3/3/1992	370	472	9	1.04E+04	5.2	3/3/1992	5.9135	6.1570	2.1972	9.2487	3/3/1992	370	1.02E+04	5.1	11	
5/13/1992	1965	1200	38	1.12E+05	55.8	5/13/1992	7.5832	7.0901	3.6376	11.6222	5/13/1992	1965	1.38E+05	68.9	29	
9/1/1992	417	239	1	5.85E+02	0.3	9/1/1992	6.0331	5.4765	0.0000	6.3710	9/1/1992	417	1.23E+04	6.1	12	
4/18/1994	1099	875	38	8.13E+04	40.7	4/18/1994	7.0022	6.7742	3.6376	11.3063	4/18/1994	1099	5.56E+04	27.8	21	
4/20/1994	1185	1280	75	2.35E+05	117.4	4/20/1994	7.0775	7.1546	4.3175	12.3666	4/20/1994	1185	6.26E+04	31.3	22	
4/25/1994	1292	1200	13	3.82E+04	19.1	4/25/1994	7.1639	7.0901	2.5649	10.5495	4/25/1994	1292	7.16E+04	35.8	23	
4/27/1994	1264	917	9	2.02E+04	10.1	4/27/1994	7.1420	6.8211	2.1972	9.9129	4/27/1994	1264	6.92E+04	34.6	22	
5/2/1994	1436	718	4	7.03E+03	3.5	5/2/1994	7.2696	6.5765	1.3863	8.8573	5/2/1994	1436	8.44E+04	42.2	24	
5/4/1994	1559	728	4	7.12E+03	3.6	5/4/1994	7.3518	6.5903	1.3863	8.8711	5/4/1994	1559	9.60E+04	48.0	25	
5/9/1994	1841	1680	53	2.18E+05	108.9	5/9/1994	7.5181	7.4265	3.9703	12.2914	5/9/1994	1841	1.24E+05	62.2	28	
5/11/1994	1894	2140	81	4.24E+05	212.0	5/11/1994	7.5464	7.6686	4.3944	12.9575	5/11/1994	1894	1.30E+05	65.0	28	
5/14/1994	2033	2130	35	1.82E+05	91.2	5/14/1994	7.6173	7.6639	3.5553	12.1137	5/14/1994	2033	1.45E+05	72.6	29	
5/16/1994	2209	1600	18	7.04E+04	35.2	5/16/1994	7.7003	7.3778	2.8904	11.1626	5/16/1994	2209	1.65E+05	82.7	31	
5/17/1994	2272	1450	12	4.26E+04	21.3	5/17/1994	7.7284	7.2793	2.4849	10.6587	5/17/1994	2272	1.73E+05	86.4	31	
5/23/1994	2585	1020	4	9.98E+03	5.0	5/23/1994	7.8575	6.9276	1.3863	9.2084	5/23/1994	2585	2.11E+05	105.6	33	
5/25/1994	2710	1240	10	3.03E+04	15.2	5/25/1994	7.9047	7.1229	2.3026	10.3200	5/25/1994	2710	2.27E+05	113.7	34	
5/31/1994	2984	1510	12	4.43E+04	22.2	5/31/1994	8.0010	7.3199	2.4849	10.6993	5/31/1994	2984	2.64E+05	132.1	36	
6/2/1994	2948	1520	9	3.35E+04	16.7	6/2/1994	7.9889	7.3265	2.1972	10.4182	6/2/1994	2948	2.59E+05	129.7	36	
6/6/1994	3019	1300	5	1.59E+04	8.0	6/6/1994	8.0127	7.1701	1.6094	9.6741	6/6/1994	3019	2.69E+05	134.6	36	
6/13/1994	2839	1020	6	1.50E+04	7.5	6/13/1994	7.9512	6.9276	1.7918	9.6138	6/13/1994	2839	2.45E+05	122.3	35	
11/22/1994	359	160	1	3.91E+02	0.2	11/22/1994	5.8833	5.0752	0.0000	5.9697	11/22/1994	359	9.70E+03	4.9	11	
3/22/1995	490	927	8	1.81E+04	9.1	3/22/1995	6.1944	6.8320	2.0794	9.8059	3/22/1995	490	1.58E+04	7.9	13	
5/1/1995	1371	1260	12	3.70E+04	18.5	5/1/1995	7.2233	7.1389	2.4849	10.5183	5/1/1995	1371	7.85E+04	39.3	23	
5/2/1995	1436	1330	21	6.83E+04	34.2	5/2/1995	7.2696	7.1929	3.0445	11.1320	5/2/1995	1436	8.44E+04	42.2	24	
5/8/1995	1797	1690	27	1.12E+05	55.8	5/8/1995	7.4939	7.4325	3.2958	11.6228	5/8/1995	1797	1.20E+05	59.9	27	
5/9/1995	1841	1790	50	2.19E+05	109.5	5/9/1995	7.5181	7.4900	3.9120	12.2965	5/9/1995	1841	1.24E+05	62.2	28	
5/16/1995	2209	2210	71	3.84E+05	191.9	5/16/1995	7.7003	7.7007	4.2627	12.8579	5/16/1995	2209	1.65E+05	82.7	31	
5/17/1995	2272	2460	125	7.52E+05	376.1	5/17/1995	7.7284	7.8079	4.8283	13.5307	5/17/1995	2272	1.73E+05	86.4	31	
5/19/1995	2390	2800	121	8.29E+05	414.4	5/19/1995	7.7790	7.9374	4.7958	13.6277	5/19/1995	2390	1.87E+05	93.5	32	
5/22/1995	2518	3090	115	8.69E+05	434.6	5/22/1995	7.8312	8.0359	4.7449	13.6754	5/22/1995	2518	2.03E+05	101.4	33	
5/23/1995	2585	3080	126	9.49E+05	474.7	5/23/1995	7.8575	8.0327	4.8363	13.7635	5/23/1995	2585	2.11E+05	105.6	33	
5/25/1995	2710	2820	81	5.59E+05	279.4	5/25/1995	7.9047	7.9445	4.3944	13.2335	5/25/1995	2710	2.27E+05	113.7	34	
5/30/1995	2985	3280	124	9.95E+05	497.5	5/30/1995	8.0014	8.0956	4.8203	13.8104	5/30/1995	2985	2.64E+05	132.2	36	
5/31/1995	2984	3680	215	1.94E+06	967.7	5/31/1995	8.0010	8.2107	5.3706	14.4758	5/31/1995	2984	2.64E+05	132.1	36	
6/3/1995	2964	4180	173	1.77E+06	884.5	6/3/1995	7.9943	8.3381	5.1533	14.3859	6/3/1995	2964	2.62E+05	130.8	36	
6/4/1995	2980	4230	229	2.37E+06	1184.8	6/4/1995	7.9997	8.3500	5.4337	14.6782	6/4/1995	2980	2.64E+05	131.9	36	
6/5/1995	3025	4600	374	4.21E+06	2104.2	6/5/1995	8.0147	8.4338	5.9243	15.2526	6/5/1995	3025	2.70E+05	135.0	36	
6/14/1995	2812	3930	126	1.21E+06	605.6	6/14/1995	7.9417	8.2764	4.8363	14.0072	6/14/1995	2812	2.41E+05	120.5	35	
6/19/1995	2697	3750	134	1.23E+06	614.6	6/19/1995	7.8999	8.2295	4.8978	14.0219	6/19/1995	2697	2.26E+05	112.9	34	
6/20/1995	2645	3260	87	6.94E+05	346.9	6/20/1995	7.8804	8.0895	4.4659	13.4499	6/20/1995	2645	2.19E+05	109.5	34	
6/26/1995	2281	3610	100	8.83E+05	441.5	6/26/1995	7.7324	8.1915	4.6052	13.6912	6/26/1995	2281	1.74E+05	86.9	31	
6/27/1995	2227	4200	159	1.63E+06	816.8	6/27/1995	7.7084	8.3428	5.0689	14.3063	6/27/1995	2227	1.67E+05	83.7	31	
9/18/1995	484	446	1	1.09E+03	0.5	9/18/1995	6.1821	6.1003	0.0000	6.9948	9/18/1995	484	1.55E+04	7.7	13	
5/17/1997	2272	6390	692	1.08E+07	5408.3	5/17/1997	7.7284	8.7625	6.5396	16.1966	5/17/1997	2272	1.73E+05	86.4	31	
4/14/1998	951	590	2	2.89E+03	1.4	4/14/1998	6.8575	6.3801	0.6931	7.9678	4/14/1998	951	4.44E+04	22.2	19	
5/11/1998	1894	2770	66	4.47E+05	223.6	5/11/1998	7.5464	7.9266	4.1897	13.0108	5/11/1998	1894	1.30E+05	65.0	28	
6/15/1998	2814	2610	32	2.04E+05	102.2	6/15/1998	7.9424	7.8671	3.4657	12.2274	6/15/1998	2814	2.41E+05	120.6	35	
7/16/1998	1121	1190	16	4.66E+04	23.3	7/16/1998	7.0220	7.0817	2.7726	10.7488	7/16/1998	1121	5.74E+04	28.7	21	
8/13/1998	528	601	3	4.41E+03	2.2	8/13/1998	6.2691	6.3986	1.0986	8.3917	8/13/1998	528	1.77E+04	8.9	14	
9/17/1998	383	421	10	1.03E+04	5.1	9/17/1998	5.9480	6.0426	2.3026	9.2397	9/17/1998	383	1.07E+04	5.4	11	
4/9/2001	811	364	1	8.90E+02	0.4	4/9/2001	6.6983	5.8972	0.0000	6.7917	4/9/2001	811	3.46E+04	17.3	17	
5/8/2001	1797	846	5	1.03E+04	5.2	5/8/2001	7.4939	6.7405	1.6094	9.2445	5/8/2001	1797	1.20E+05	59.9	27	
6/5/2001	3025	962	3	7.06E+03	3.5	6/5/2001	8.0147	6.8690	1.0986	8.8621	6/5/2001	3025	2.70E+05	135.0	36	
7/10/2001	1451	450	12	1.32E+04	6.6	7/10/2001	7.2800	6.1092	2.4849	9.4887	7/10/2001	1451	8.58E+04	42.9	24	
8/6/2001	597	291	1	7.12E+02	0.4	8/6/2001	6.3919	5.6733	0.0000	6.5678	8/6/2001	597	2.15E+04	10.7	15	
9/24/2001	364	227	1	5.55E+02	0.3	9/24/2001	5.8972	5.4250	0.0000	6.3195	9/24/2001	364	9.92E+03	5.0	11	

## SUMMARY OUTPUT

### Regression Statistics

Multiple R	0.99350999
R Square	0.9870621
Adjusted R Square	0.969204957
Standard Error	1.306063631
Observations	57

### ANOVA

	df	SS	MS	F	Significance F			
Regression	1	7287.815623	7287.815623	4272.3685	7.87556E-54			
Residual	56	95.52492369	1.705802209					
Total	57	7383.340547						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A		#N/A	#N/A	#N/A	#N/A	#N/A
Q Measured	1.560403865	0.023872762	65.36335747	1.44818E-54	1.512580976	1.608226753	1.512580976	1.608226753

### RESIDUAL OUTPUT

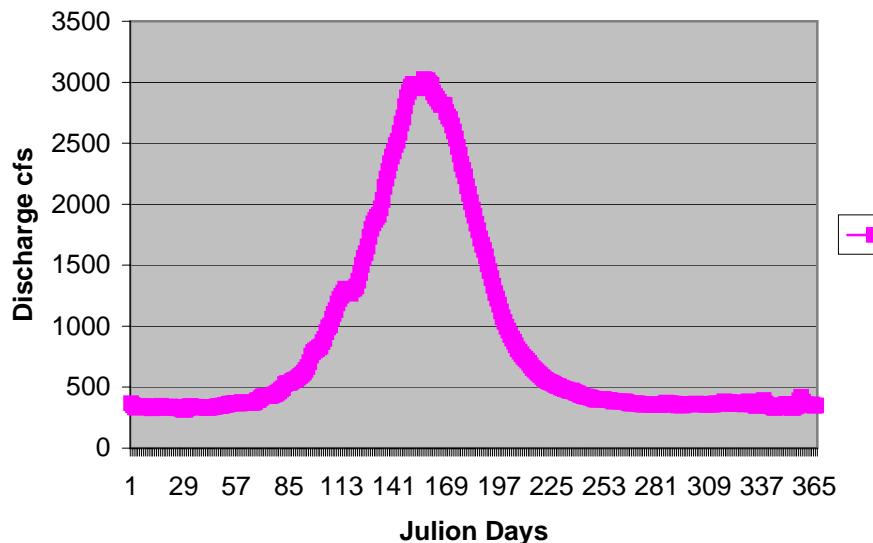
Observation	Predicted	SSC Load	Residuals	Standard Residuals	Percentile	SSC Load
1	8.809177156	-0.882917758	-0.682023485		0.877192982	5.969691955
2	9.607373803	-0.3586521	-0.277046365		2.631578947	6.319468157
3	11.06338329	0.558797841	0.43165204		4.385964912	6.370981692
4	8.545494891	-2.174513199	-1.679736372		6.140350877	6.567841407
5	10.57052513	0.735803054	0.568382456		7.894736842	6.791672008
6	11.16408945	1.202532158	0.928914575		9.649122807	6.994837092
7	11.06338329	-0.513838962	-0.396922858		11.40350877	7.926259399
8	10.64368246	-0.730832271	-0.564542698		13.15789474	7.967787857
9	10.26194853	-1.404666461	-1.085056345		14.9122807	8.391725363
10	10.28353122	-1.412417675	-1.091043891		16.66666667	8.85728207
11	11.58841587	0.702943253	0.542999394		18.42105263	8.862144879
12	11.96605239	0.991476014	0.76588099		20.1754386	8.871113549
13	11.95874369	0.154999768	0.119731969		21.92982456	9.208370407
14	11.51228351	-0.349634706	-0.27008074		23.68421053	9.239736067
15	11.35867724	-0.699933617	-0.540674554		25.43859649	9.244475412
16	10.80978813	-1.601417722	-1.237039902		27.19298246	9.248721703
17	11.11454866	-0.794578777	-0.613784667		28.94736842	9.488672372
18	11.42194552	-0.722655805	-0.55822666		30.70175439	9.613835515
19	11.432242526	-1.014036927	-0.783308516		32.45614035	9.674075596
20	11.188228225	-1.514206649	-1.169672359		34.21052632	9.805913247
21	10.80978813	-1.195952614	-0.923832104		35.96491228	9.912850189
22	7.919320835	-1.94962888	-1.506020999		37.71929825	10.31996989
23	10.66060675	-0.854693499	-0.66022122		39.47368421	10.41820833
24	11.13951566	-0.621223866	-0.479873989		41.22807018	10.51829179
25	11.22388236	-0.091907558	-0.070954515		42.98245614	10.54954433
26	11.59767646	0.025162356	0.019437052		44.73684211	10.65874363
27	11.68737954	0.609132508	0.470533832		46.49122807	10.69928972
28	12.01627662	0.841669193	0.650160393		48.24561404	10.74881545
29	12.18350328	1.347245224	1.040700422		50	11.1319748
30	12.38551015	1.242173231	0.959535935		51.75438596	11.16264881
31	12.53929056	1.136086075	0.87758727		53.50877193	11.30632819
32	12.53423252	1.229252399	0.949555039		55.26315789	11.62218114
33	12.39661627	0.836843184	0.646432468		57.01754386	11.62283881
34	12.6324035	1.177994907	0.909606396		58.77192982	12.11374346
35	12.81195813	1.663866073	1.285279097		60.52631579	12.22735954
36	13.01075123	1.37512503	1.06223661		62.28070175	12.29135913
37	13.0293056	1.648891819	1.273712003		64.03508772	12.29651204
38	13.16015219	2.092433333	1.61632509		65.78947368	12.36662161
39	12.91451828	1.092676469	0.844054848		67.54385965	12.85794581
40	12.84136095	1.180508105	0.911901755		69.29824561	12.9575284
41	12.62285972	0.827049017	0.638866812		71.05263158	13.01077548
42	12.7819906	0.909160775	0.70229531		72.80701754	13.23345946
43	13.01819947	1.288062674	0.994983946		74.56140351	13.44990873
44	9.518961268	-2.524124176	-1.949798781		76.31578947	13.53074851
45	13.67302255	2.52357109	1.949371541		78.07017544	13.62768338
46	9.955567863	-1.987780006	-1.535491427		79.8245614	13.67537664
47	12.36870133	0.642074152	0.495980115		81.57894737	13.69115138
48	12.27586183	-0.048502283	-0.037466339		83.33333333	13.76348492
49	11.05032545	-0.301509997	-0.232906063		85.0877193	13.81039841
50	9.984392264	-1.592666901	-1.230280194		86.84210526	14.00719475
51	9.428947626	-0.189211559	-0.146159397		88.59649123	14.02186906
52	9.201941685	-2.410269678	-1.861850112		90.35087719	14.30626215
53	10.51793246	-1.273457046	-0.983701602		92.10526316	14.38587626
54	10.71843669	-1.856291815	-1.43392134		93.85964912	14.4758242
55	9.532893538	-0.044221165	-0.034159324		95.61403509	14.67819742
56	8.852675551	-2.284834144	-1.764955493		97.36842105	15.25258552
57	8.465112972	-2.145644815	-1.657436542		99.12280702	16.19659364

DATE	Natural Log SS Load Predicted		Natural Log SS Load Measured		X * Y
	Square	Square	Square		
11/8/1991	7.9263	62.8256	5.6454	31.8711	44.7473
3/3/1992	9.2487	85.5389	6.1570	37.9084	56.9442
5/13/1992	11.6222	135.0751	7.0901	50.2692	82.4022
9/1/1992	6.3710	40.5894	5.4765	29.9917	34.8904
4/18/1994	11.3063	127.8331	6.7742	45.8901	76.5916
4/20/1994	12.3666	152.9333	7.1546	51.1885	88.4784
4/25/1994	10.5495	111.2929	7.0901	50.2692	74.7971
4/27/1994	9.9129	98.2646	6.8211	46.5275	67.6166
5/2/1994	8.8573	78.4514	6.5765	43.2500	58.2496
5/4/1994	8.8711	78.6967	6.5903	43.4321	58.4633
5/9/1994	12.2914	151.0775	7.4265	55.1536	91.2824
5/11/1994	12.9575	167.8975	7.6686	58.8068	99.3656
5/14/1994	12.1137	146.7428	7.6639	58.7350	92.8382
5/16/1994	11.1626	124.6047	7.3778	54.4313	82.3553
5/17/1994	10.6587	113.6088	7.2793	52.9885	77.5884
5/23/1994	9.2084	84.7941	6.9276	47.9911	63.7915
5/25/1994	10.3200	106.5018	7.1229	50.7352	73.5078
5/31/1994	10.6993	114.4748	7.3199	53.5804	78.3174
6/2/1994	10.4182	108.5391	7.3265	53.6771	76.3286
6/6/1994	9.6741	93.5877	7.1701	51.4106	69.3643
6/13/1994	9.6138	92.4258	6.9276	47.9911	66.6004
11/22/1994	5.9697	35.6372	5.0752	25.7574	30.2972
3/22/1995	9.8059	96.1559	6.8320	46.6756	66.9935
5/1/1995	10.5183	110.6345	7.1389	50.9634	75.0887
5/2/1995	11.1320	123.9209	7.1929	51.7383	80.0716
5/8/1995	11.6228	135.0904	7.4325	55.2418	86.3866
5/9/1995	12.2965	151.2042	7.4900	56.0997	92.1005
5/16/1995	12.8579	165.3268	7.7007	59.3015	99.0158
5/17/1995	13.5307	183.0812	7.8079	60.9636	105.6470
5/19/1995	13.6277	185.7138	7.9374	63.0019	108.1680
5/22/1995	13.6754	187.0159	8.0359	64.5761	109.8943
5/23/1995	13.7635	189.4335	8.0327	64.5240	110.5577
5/25/1995	13.2335	175.1244	7.9445	63.1150	105.1331
5/30/1995	13.8104	190.7271	8.0956	65.5387	111.8034
5/31/1995	14.4758	209.5495	8.2107	67.4151	118.8562
6/3/1995	14.3859	206.9534	8.3381	69.5234	119.9504
6/4/1995	14.6782	215.4495	8.3500	69.7218	122.5623
6/5/1995	15.2526	232.6414	8.4338	71.1292	128.6374
6/14/1995	14.0072	196.2015	8.2764	68.4987	115.9291
6/19/1995	14.0219	196.6128	8.2295	67.7249	115.3931
6/20/1995	13.4499	180.9000	8.0895	65.4397	108.8028
6/26/1995	13.6912	187.4476	8.1915	67.1001	112.1506
6/27/1995	14.3063	204.6691	8.3428	69.6030	119.3549
9/18/1995	6.9948	48.9277	6.1003	37.2139	42.6707
5/17/1997	16.1966	262.3296	8.7625	76.7812	141.9225
4/14/1998	7.9678	63.4856	6.3801	40.7060	50.8355
5/11/1998	13.0108	169.2803	7.9266	62.8310	103.1312
6/15/1998	12.2274	149.5083	7.8671	61.8913	96.1939
7/16/1998	10.7488	115.5370	7.0817	50.1506	76.1200
8/13/1998	8.3917	70.4211	6.3986	40.9420	53.6953
9/17/1998	9.2397	85.3727	6.0426	36.5134	55.8323
4/9/2001	6.7917	46.1268	5.8972	34.7764	40.0515
5/8/2001	9.2445	85.4603	6.7405	45.4346	62.3126
6/5/2001	8.8621	78.5376	6.8690	47.1834	60.8742
7/10/2001	9.4887	90.0349	6.1092	37.3229	57.9686
8/6/2001	6.5678	43.1365	5.6733	32.1866	37.2615
9/24/2001	6.3195	39.9357	5.4250	29.4301	34.2828
Avg	11.0932		7.1937		
Max	16.1966		8.7625		
Min	5.9697		5.0752		
Std DEV	2.5667		0.8807		

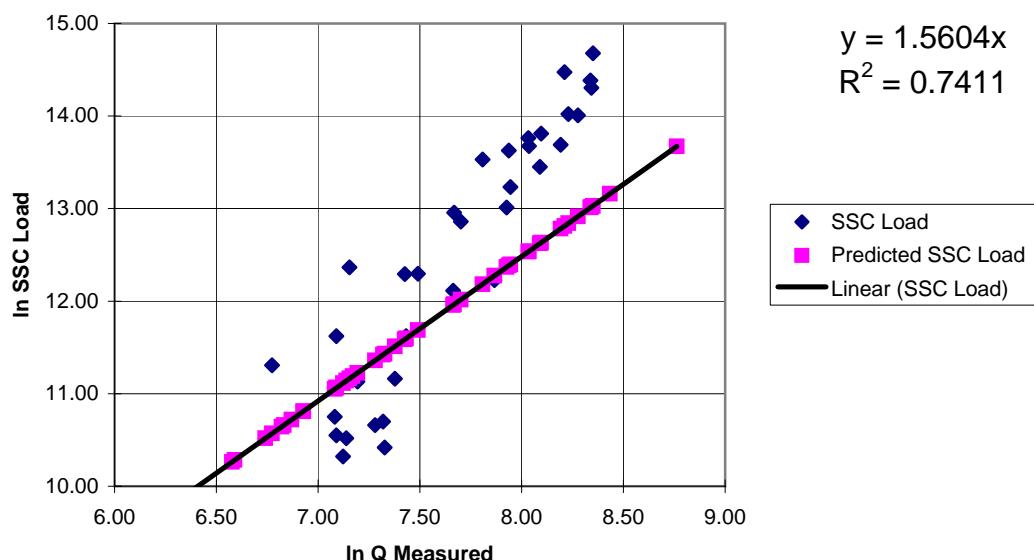
Sum of Average Count	632	7383	410	2993	4670
	11.0932	7.1937	57	57	

Sx=sum of Xi	Sx=	632.3147507	Percent Difference Measured	16.2%	SumXi2=	7383.341
Sy=sum of Yi	Sy=	410.0383613	Percent Difference Predicted	24.9%	Sx2=	399821.9
Sxx=SumXi2-(Sx2/N)	Sxx=	368.9204775			Sx2/n=	7014.42
Syy=SumYi2-(Sy2/N)	Syy=	43.43988126				
Sxy= (Sx-(Sx*Sy))/N)	Sxy=	121.8130957			Sxx=	368.9205
b1=Sxy/Sxx	b1=	0.330187949			SumYi2=	2993.115
(Sx-(b1*(power(Sxy)2)/Sxx)))	bo=	619.0341898			Sy2=	168131.5
(Syy-(Power(Sxy)2)/Sxx))	SEE=	3.218665036			Sy2/n=	2949.675
model root mean square error	sq root of SEE	1.794063833			Sxy=	43.43988
					Sx=	4670.468
					Sx*Sy=	259273.3
					(Sx-Sy)/n=	4548.654
					b1=	0.330188
					bo=	
					Sx=	632.3148
					b1=	0.330188
					Sxy2	14838.43
					Sxx	368.9205
					Sxy2/Sxx	40.22122
					b1*(Sxy/Sx)	13.28056
					bo=	619.0342
					SEE	
					Syy	43.43988
					Sxy2	14838.43
					Sxy2/Sxx	40.22122
					SEE=	3.218665
					Sqr root err	1.794064

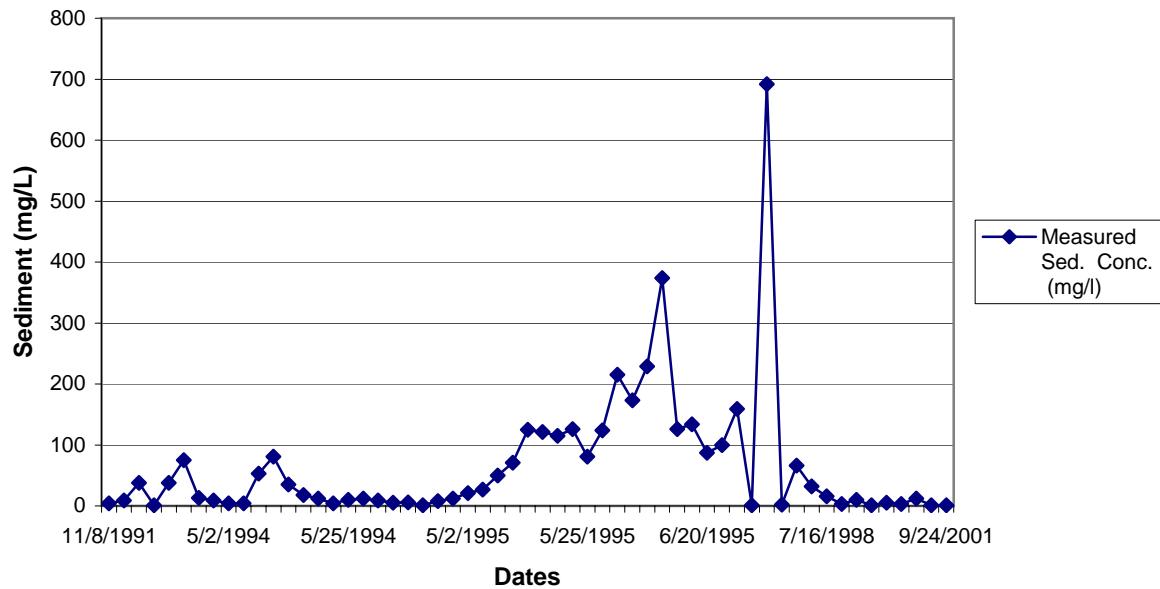
**Mean Daily Discharge SF Payette River at Lowman**  
**Period of Record 1941 through 2004**



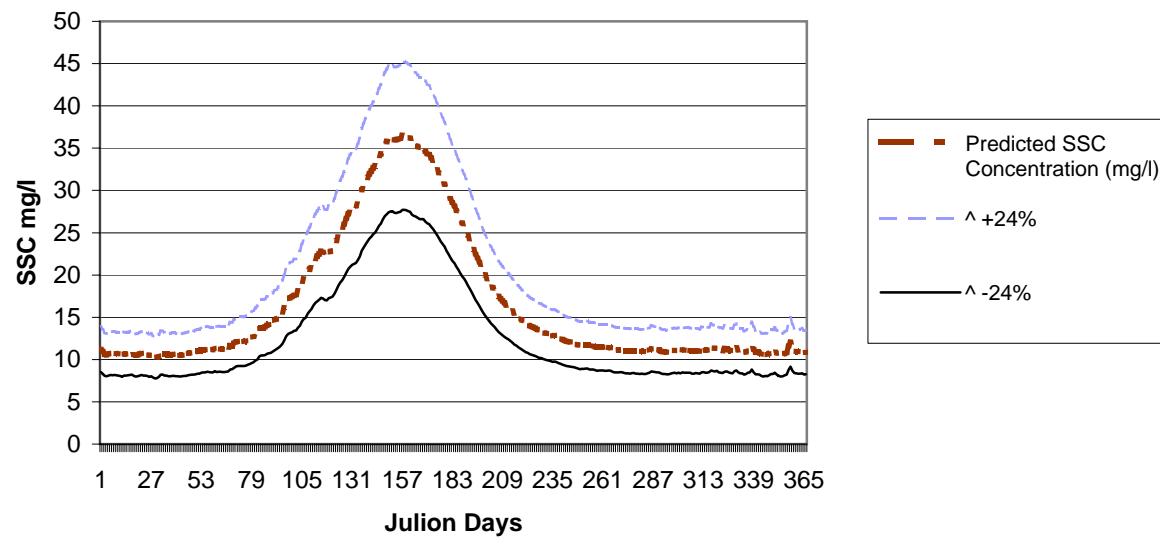
**In Q Measured Line Fit Plot**  
Intercept Set at 0.00 (if zero discharge, then zero load)



### Measured Sediment Concentrations



### Sediment Concentrations, SF Payette at Lowman Normalized Discharge + or - 24%



**Appendix F. Distribution List**

Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

Environmental Protection Agency  
1435 North Orchard  
Boise, Idaho 83706

City of Boise  
Public Library  
715 South Capitol  
Boise, Idaho 83702

Garden Valley Library  
Garden Valley, Idaho

Boise County Courthouse  
413 Main Street  
Idaho City, Idaho 83631

Boise National Forest  
1249 South Vinnell Way  
Boise, Idaho 83709

## Appendix G. Public Comments

Comments From: US Environmental Protection Agency Received via email: March 3, 2005	Response
<p>Thank you for the opportunity to review the South Fork (SF) Payette Subbasin Assessment and for taking the time to talk with EPA. As you may know, EPA makes final approval/disapproval decisions on proposals to de-list waters during the biennial review of the Integrated Report. Until that time, waters on the 303(d) list remain there. We request that this de-listing proposal and justification be included in the next Integrated Report. The following comments are EPA's evaluation of the SF Payette Subbasin Assessment and provide listing recommendations for decisions that will be made during the biennial review process.</p>	<p>Comment noted.</p>
<p>We appreciate the comprehensive description of the watershed, clarity of text, technical analysis, and hard work clearly shown in the subbasin assessment. The maps, photographs, tables and figures were particularly helpful to visualize the watershed and understand the technical rationale. From our phone conversation, it appears there are additional BURP data which will help describe that beneficial uses are supported on the mainstem SF Payette. This and any other information relating water quality to aquatic health would be important to include in a report to support the assertion that beneficial uses are attained in the mainstem and that a TMDL is not needed. Additionally, it would be helpful to include a map that shows the locations where BURP data were collected.</p>	<p>We have included additional biological analysis on pages 41 through 44. The analysis includes a narrative description of stream snorkel surveys by the Department of Fish &amp; Game, the results of river BURP monitoring from the river at Lowman and USGS monitoring at the same location. We believe this site to be representative of a majority of the riffle habitat of the river. In accordance with river assessment protocols, the information provided shows the river to be fully supporting beneficial uses.</p>
<p>EPA has concerns about the proposal to delist the SF Payette River for sediment. While the assessment convincingly demonstrates that elevated suspended sediment concentration (SSC) levels likely do not occur in normal and low flow events, water quality and biological</p>	<p>Based on the information presented on pages 41 through 44, DEQ believes that the occasional high flow events are not creating impacts significant enough prevent support of beneficial uses. Additionally, the Boise National Forest Plan targets specific areas for</p>

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<p>data related to bedload sediment is needed to better understand its impact in the river and downstream. Additionally, the report acknowledges exceedances to SSC targets during high flows. The report also attributes sediment problems to roads and natural causes, such as fire and catastrophic events. Since TMDLs address impairments to waters during critical periods from anthropogenic sources, a TMDL for sediment is needed for the mainstem SF Payette.</p>	<p>improvement which will further minimize sediment in tributaries. Finally, we are aware of significant sources of sediment along Highway 21 and fully intend to seek restoration of these areas in cooperation with the Idaho Department of Transportation.</p>
<p>A TMDL in the SF Payette will also help to address sediment problems downstream in the North Fork (NF) Payette. It appears that the SF Payette is a major source of sediment and that a TMDL which sets suspended and bedload sediment targets for road improvement projects in the SF Payette will improve water quality both in the SF and NF Payette.</p> <p>EPA has additional concerns with the rationale for delisting the mainstem SF Payette River. While the four tributaries use Idaho's Waterbody Assessment Guidance (WBAG) [2002] and Beneficial Use Reconnaissance Program (BURP) data, the proposal for delisting in the mainstem relies on SSC targets alone. Fish, macroinvertebrate or habitat indices as described in WBAG are needed to provide a clear link to beneficial use support and rationale for delisting.</p>	<p>Implementation of the prescriptive measures in the Boise National Forest Plan as well as implementation of improvements along Highway 21 will eventually improve bedload sediment loads. (The NF Payette has its own bedload issues to be dealt with above the confluence with the SF Payette. This considerable legacy bedload will take many years to improve because of controlled flows from Cascade Reservoir.)</p>
<p>Unless additional data is available which suggests that aquatic life uses are supported in the SF Payette River, our recommendation is to proceed with TMDL development. It appears that steps for completing a TMDL for the mainstem SF Payette are outlined on page 84 and 85 in the Source Summary Section and that SSC and percentage fine targets may be useful for developing allocations. The discussion on pages 84 and 85 seem identical to what might be the technical analysis in a TMDL. That</p>	<p>See response concerning additional information on pages 41 through 44.</p> <p>In addition to biological data, we also added a comparison of similar watersheds located in the Idaho batholith. This comparison shows debris torrents from burned and unburned tributaries of the Middle Fork Salmon River (located almost entirely in wilderness). DEQ believes that these types of events contribute a majority of the sediment to the SF Payette River. Coupled with data showing full support of beneficial uses, DEQ does not believe a TMDL is</p>

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<p>information coupled with Table 44 will be a useful start to prioritize road improvements. The USFS expects to complete their road inventory in the SF Payette Subbasin by April 2005, which may be helpful in assessing and further prioritizing road impacts on sediment.</p>	<p>warranted.</p>
<p>For the four tributaries, EPA concurs with DEQ's recommendation to evaluate 2004 BURP data before adding these streams to the 2006 303(d) list. For Smokey Creek, Horn Creek, and Wash Creek, more information on impacts from roads is needed before it can be concluded that impairments are from natural causes alone. Since Chapman Creek has few roads and meets percent fine targets at one location, natural events may well be the cause of impairment. Additional BURP data will be helpful in assessing the degree and cause of impairment</p>	<p>Agreed.</p>
<p><b>Major Comments</b></p> <p><u>Sediment Problems in High Flow Events on the Mainstem SF Payette.</u> Pages 38-41 provide a convincing demonstration that suspended sediment concentrations (SSCs) are well below the rolling 14-day geometric mean of 80 mg/L for normal and low flows at Lowman. Figure 17, the linear regression in Figure 19, and data presented in Table 9 and Figure 20 are helpful in confirming the validity of the regression equation and the hypothesis that at low and normal flows, SSCs are below targets.</p> <p>It is unclear whether this regression equation can be applied to high flow, high runoff events. If the regression equation is used to calculate flow for an SSC of 80 mg/L, the flow is 2662, implying that flows below this would not result in exceedances of the 80 mg/L standard. However, Figure 18 clearly shows violations of SSC targets with an annual average flow of approximately 1100 cfs. Thus, the equation</p>	<p>Comment noted.</p> <p>We have revised this section of the document entirely. A sediment rating curve has been developed that uses normalized flows to establish average suspended sediment concentrations throughout the year. A statistical analysis was used to show the highest average suspended sediment concentration to be 46 mg/L. While there will be exceedences of this, they are for very</p>

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may be less applicable for high flow events.	short durations and will not contribute to beneficial use impairment.
<p>As discussed on page 41, sediment problems occur in high flow, high runoff events. Likewise, the Pollutant Source Inventory in Chapter 3 acknowledges that in addition to fires and natural catastrophic events, roads are a major contributor to sediment. TMDLs should be completed when anthropogenic sources contribute to impairments during critical conditions. Thus, a sediment TMDL for the SF Payette is needed to address anthropogenic sediment sources, particularly the impact of roads on sediment during high flow events. Pages 84 and 85 outline the technical analysis that would be identical to what might be in a sediment TMDL. Additionally, the USFS road inventory in the SF Payette is expected to be complete by April 2005 and may be useful to assess and further prioritize road impacts on sediment.</p>	See above responses.
<p><u>Bedload sediment.</u> It is unclear what the impacts are from bedload sediment. Though the text discusses stream velocities, in-stream data characterizing bedload sediment and biological health would help characterize the extent and impact of bedload sediment in the river. Additionally, since SF Payette is believed to be a significant contributor to sediment problems downstream in the NF Payette, identifying sources of bedload sediment and addressing them will help to improve aquatic habitat in both the SF and NF Payette.</p>	See above response.
<p><u>WBAG.</u> It appears that WBAG was not used to determine whether the SF Payette should be delisted. The Guidance calls for the use of a minimum of two indices in order to make a status call, unless other Tier 1 data “convincingly” establishes that the pollutant is</p>	See above response.

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<p>not impairing beneficial uses. Our concern is that the delisting rationale does not rely on using fish, macroinvertebrate or habitat indices as described in WBAG. Further, other data provided (flow, SSC concentrations) do not provide a clear link to beneficial use support. While the SSC target cited has been used as a TMDL target, additional tools are needed to evaluate aquatic life beneficial use support. This is particularly so in a system which is a significant source of bedload sediment, particularly downstream in the NF Payette.</p>	
<p><u>Chapman Creek.</u> EPA concurs that additional BURP data will be helpful to determine whether Chapman Creek should be included on the 2006 303(d) list. The lack of roads in the watershed supports the assertion that sediment problems likely stem from natural sources. Further, percent fines at one location have improved from 1997 to 2004 and currently meet the target of &lt;30% fines being less than or equal to 6.0 mm. The 2004 BURP data will be helpful to determine the biological and physical conditions of Chapman Creek.</p>	Agreed.
<p><u>Smokey Creek, Horn Creek, and Wash Creek.</u> EPA concurs that additional BURP data will be helpful to determine whether these three creeks should be included on the 2006 303(d) list. The photographs, text, and data illustrate the significant impact 1997 floods and fires had on these tributaries. It is unclear what impact roads have on sediments. More information on road density in Horn and Wash Creeks would be helpful.</p>	Agreed.
<p>Since WBAG II and BURP show beneficial uses are not supported, percent fine targets continue not to be met, and sediment impacts from roads are uncertain, more information is needed before it can be concluded that these creeks do not support beneficial uses from</p>	Agreed.

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<p>natural causes alone. Additional BURP data and the USFS road inventory will be helpful in understanding the health of the watershed and making listing decisions in the 2006 Integrated Report.</p>	
<p><b>Other Comments:</b></p>	
<p><b>Tributaries Not Meeting Beneficial Uses.</b> It appears that the subbasin assessment evaluates four tributaries: Wash Creek, Horn Creek, Chapman Creek, and Smokey Creek based on the text, Table A (page 3) and Table 41 (page 76). However, Table 5 (page 31) and Table 11(page 43) also include tributaries that are impaired, which are different from Tables A and 41. Bush Creek is in Table 5, but not Table A or Table 11. Deadwood River Below Mine and Eight mile Creek (Lower) are in Table 11, but not in Table A or 5. More clarification would be helpful.</p>	<p>Bush Creek was in the table in error and has been removed. The Deadwood River is not on the §303 (d) list, is not impaired and its assessment is not included in the document (other than the description in Table 11, now 15).</p>
<p><b>Chapter 1: Subbasin Characterization.</b> This section provides an excellent characterization of the watershed, its history, current land uses, geology, and hydrography. The text was well-written and gives the reader a comprehensive picture of the SF Payette subbasin.</p>	<p>Comment noted.</p>
<p><b>Page 35, Stream Velocity in SF Payette.</b> Three lines from the bottom of the page, the text states that there is a "62-year average stream velocity over 3.05 miles per hour [sic]". It appears that units should be feet per second, as in the text 5 lines from the bottom.</p>	<p>This has been changed in the document.</p>
<p><b>Chapter 3: Pollutant Source Inventory.</b> The information in this chapter, especially Table 43, is impressive and will be a useful tool for prioritizing road improvements to improve water quality.</p>	<p>Thank you.</p>